Early Cultural Developments on the Eastern Rim of the Tibetan Plateau: Establishing a New Chronological Scheme for the Liangshan Region

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ABSTRACT

Research on the eastern rim of the Tibetan Plateau is generally hampered by the lack of established chronologies. The mountains of southwest China in particular are not very well explored. As a point of intersection of various culture-geographic regions and of long-distance exchange networks, the Liangshan region in southwest Sichuan deserves special attention. Unfortunately, this area is usually excluded from studies into the prehistory of southwest China, chiefly because the archaeological material is remarkably heterogeneous and the local prehistoric cultural sequence therefore has long remained obscure. Based on the results of excavations and survey work conducted during recent decades, this article represents a first attempt to suggest a chronological scheme for southwest China and neighboring parts of Yunnan from the earliest evidence of human occupation around 3000 B.C. to the onset of large-scale Han influence around A.D. 100. Additionally, the article reconstructs processes of early cultural developments and human occupation of the southeastern rim of the Tibetan Plateau that can serve as a point of departure for future research on the prehistory of western China. KEYWORDS: Tibetan Plateau, prehistory, chronology, Sichuan, Yunnan, Liangshan, cultural history.

INTRODUCTION

KNOWLEDGE OF THE PREHISTORY OF SOUTHWEST CHINA has long been hampered by a lack of established chronologies and cultural sequences for many of its subregions. While relatively flat regions such as the Chengdu Basin in Sichuan and the area around Lake Dian in Yunnan are well researched (Flad and Chen 2013; Li 1998; Pirazzoli-t'Serstevens 1974; Psarras 2015; Sun 2000; Yao 2008), the mountains on the far eastern rim of the Tibetan Plateau are comparatively under-explored. Located at the intersection of the Qinghai-Tibet and Yunnan-Guizhou Plateaus and bordering the Sichuan Basin, the Liangshan region 凉山 in southwest Sichuan has long been an important transit point between various cultural-geographic regions (Fig. 1). The known archaeological evidence clearly shows that this region has been crucial to connections between the far southwest and northwest China and the Central Plains (Hein 2014*a*). The local archaeological material is regularly cited as evidence for the

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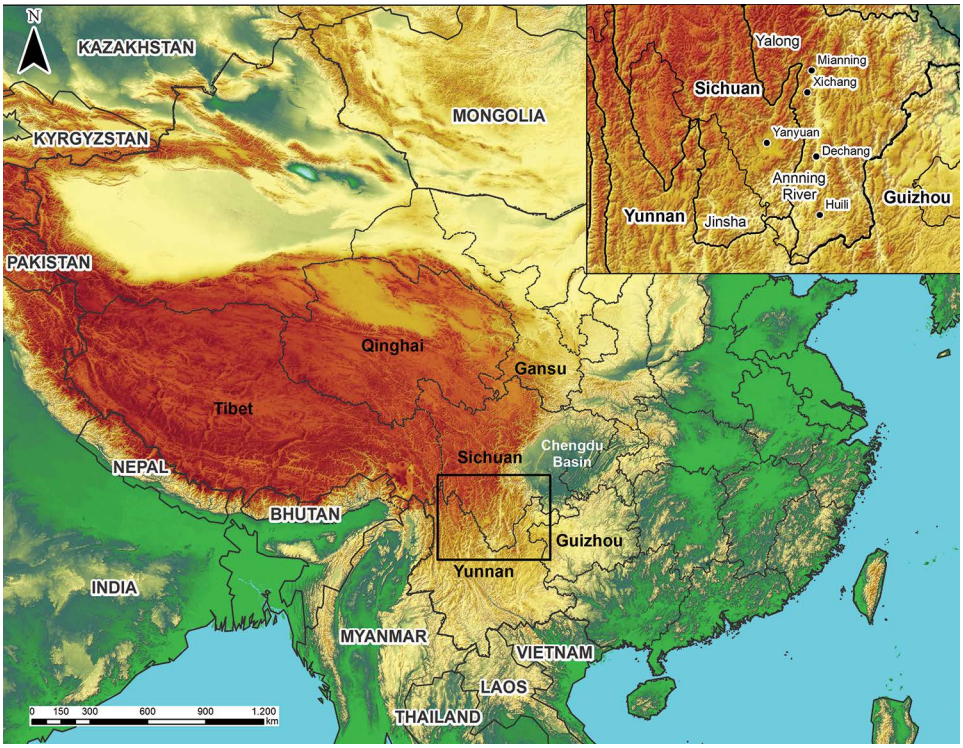

Fig. 1. Geographic location of the research area.

existence of long-distance exchange networks between southwest China and Southeast Asia on the one hand and Central Asia and central China on the other (Hein 2014*a*, 2014*b*, 2014*c*; Liu 2009).

Despite this, the Liangshan region is rarely included in studies of the prehistory of Sichuan or Yunnan. The main explanations for this puzzling omission are that the local archaeological material is quite heterogeneous and the chronological positions of many finds made during the 1980s and 1990s are unclear due to a lack of stratigraphic evidence or radiocarbon dates. Intensification of archaeological work in the Liangshan region since the early 2000s has led to numerous new discoveries that could help resolve the chronological questions and clarify the cultural heterogeneity of the region. Based on this new evidence, this article suggests for the first time a chronological scheme for southwest Sichuan. It also paints a picture of local cultural developments from the earliest evidence of human occupation around 3000 B.C. to the onset of large-scale Han cultural influence around A.D. 100. This new chronology is meant to serve as a reference and point of departure for future research on early human movements on the Tibetan Plateau and neighboring regions of southwest China.

GEOGRAPHIC BACKGROUND

This study centers on the Liangshan Yi Autonomous Prefecture 凉山彝族自治州 located in southwest Sichuan and neighboring parts of northwest Yunnan. The

research area, henceforth referred to as the Liangshan region for short, is circumscribed by the high Shaluli 沙魯里 mountains in the northwest, the Dadu River in the northeast, and the Jinsha River in the south. This well-defined geographic entity of about 81,434 km^2 encompasses present-day Liangshan Prefecture and also includes the city of Panzhihua (which consists of Miyi, Yanbian, Renhe, and the very small Xi District and Dong District) and adjacent parts of northwest Yunnan, specifically the counties of Ninglang 寧郎, Huaping 華坪, and Yongsheng 永勝 (Figs. 1, 2).[1] The region comprises a number of physiogeographic subregions or areas with widely differing characteristics: 1) the Anning River Valley 安寧河流 in the center has a temperate climate; 2) the mountains in the northeast area have a continental climate; 3) the southeastern area has a temperate to subtropical climate; 4) the high-altitude northwestern area has an alpine-steppe climate; and 5) the southwestern high-altitude mountains, plateaus, and valleys have a varied but largely temperate climate (Fig. 2). The climate throughout the Liangshan region has marked dry and wet seasons influenced by the southwest Asian monsoon, with ample annual rainfall distributed unevenly throughout the region. The northwestern area is rather dry, while the northeast suffers from water runoff from the eroded mountains during the monsoon. Average temperatures range between 14 and 18 °C, but temperatures during winter in the north drop to well below freezing, while Panzhihua in the south is dominated by extremely hot summers and warm winters (Chengdu 2010).

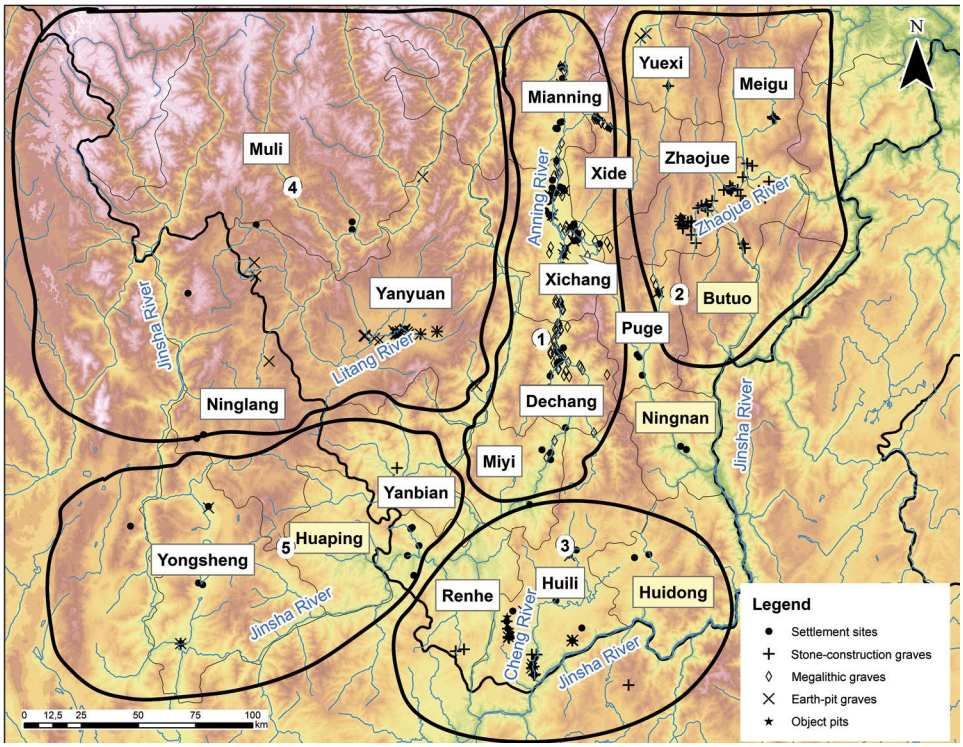

Fig. 2. Subregions and archaeological sites of the Liangshan region: 1) central area (Anning River Valley); 2) northeastern area; 3) southeastern area; 4) northwestern area; 5) southwestern area.

Palaeoecological research on the region is still at a very early stage, but recent research suggests that the conditions for agriculture may have been less ideal in the past than they are at present (D'Alpoim Guedes 2013, 2015; D'Alpoim Guedes and Butler 2014). Relative differences between the subregions would probably have been similar in the past to what they are today, so present-day climatic conditions serve as a proxy for current research. The Anning River Valley (encompassing Xichang City and Dechang, Mianning, and Miyi Counties) in the center of the research area is the most attractive for agricultural purposes, with a mild climate, ample rainfall, and fertile soil on largely flat terrain (Fig. 2, area 1). The northeastern area, with Zhaojue 昭覺縣 and Yuexi 越西縣 at its center, has a temperate climate with cold winters. Its sparse flat lands are not particularly fertile, but some of the river valleys allow for settled lifestyles with crop production and animal rearing (Fig. 2, area 2). Additionally, the northeast is an important thoroughfare leading from the Chengdu Plain to Yunnan and Southeast Asia.

The southeastern area includes Huili, Huidong, and Ningnan Counties. It has a few wide and fertile river valleys with warmer weather than that of the northeast, but is surrounded by high mountains that isolate it from other parts of Sichuan (Fig. 2, area 3). An extensive river network connects the southeast with areas farther west and north, however, and the terrain gently slopes down toward northern Yunnan. The area is made even more attractive by ample resources, most importantly copper and tin, that were much coveted by metal-producing groups throughout western China.

In the west, the contrasts between valleys and mountains are quite pronounced. Flat areas such as the Yanyuan 鹽原 Basin in western Sichuan and lake depressions of Luguhu 魯固湖 and Chenghai 程海 in Yunnan are rare among the towering peaks of the Hengduan Mountain Range 橫斷山脈. Furthermore, all of these flat areas are located at high elevations prone to frost, making them unsuitable for agriculture. While the valleys in northwest Yunnan are relatively warm, Yanyuan Basin is very dry and has cold winter nights. Nevertheless, high sun intensity and an extensive river network, as well as important salt resources make Yanyuan an attractive place. Muli County 木里縣 in the northwest is dominated by even higher mountains that are only sparsely inhabited and have seldom been explored archaeologically (Fig. 2, area 4).

Southwest Liangshan, including the counties of Yongsheng and Yanbian 鹽邊, encompasses a wide range of elevations from the high mountain ridges of up to 3600 m running down from the northwest to river basins and wide valleys below 1000 m (Fig. 2, area 5). The southwest is notably warmer and more humid than areas north, but the high sunshine intensity is similar to that of Yanyuan. Additionally, the local soils are rather fertile, making the southwest an attractive place within which to settle.

ARCHAEOLOGICAL MATERIAL AND ANALYTICAL APPROACH

The local archaeological material is as varied as the environment. It includes different types of grave forms, settlement sites, and object deposits. The material basis for the present study is comprised of 107 settlement sites, 1059 burials from 213 grave sites, and 15 object deposits and single finds compiled from excavation reports, material collections in local research institutes, and personal excavation participation and survey work (Appendix A).

The majority of settlement sites were observed in the Anning River Valley, while the northeastern and southwestern areas were represented nearly exclusively by burial material. So far, only two settlement sites are known to have been found in northwestern Liangshan. Throughout the whole region, settlement sites are usually very small, often single-phased, and characterized by thin cultural layers (Hein 2015). All sites hold a number of refuse pits and a few small buildings, most of them semi-subterranean houses or waddle-and-daub structures, with the sole exception of one stone house discovered in Muli in the northwest. A few kilns have been reported from sites in the central and southeastern areas of Liangshan.

The grave sites encompass single graves, small grave groups, and a few large cemeteries of sometimes over a hundred graves. Earth-pit graves (most of them with single interments) have been reported from the central, southeastern, and southwestern areas. Various forms of stone-construction graves are known from the northeast (mostly multiple secondary interments), southeast (mostly single primary interments), and southwest (single as well as multiple interments, mostly primary). The Anning River Valley is furthermore known for its megalithic graves containing multiple primary interments of sometimes over a hundred individuals. The grave assemblages vary greatly between subregions and time periods.

The material available for analysis includes ceramics, stone tools, a few bone items, and metal objects (mostly bronze, but some iron, gold, silver, and composite items) in the form of personal ornaments, weapons, or tools and a few vessels, coins, pieces of armor, and horse harnesses, as well as possible ritual objects such as staff heads, stands, bells, and drums. The assemblages combine particularly local features with signs of outside contact (Hein 2014*a*). These connections allow for cross-dating finds that are otherwise difficult to place in time. Radiocarbon dates are only available for a limited number of sites. Furthermore, in many cases these dates are of limited reliability as they are based on only a single sample per site or layer. The present article therefore relies mostly on traditional stratigraphic and typological methods to establish a chronological scheme for this region.

Typology and classification have been at the core of archaeological work since its beginning as a discipline as both a way of sorting the large number of objects that come out of the ground and a way of making sense of what we see in the archaeological record. Ceramics are chronologically sensitive due to the high frequency of breakage, the plasticity of the medium, and ubiquity in the archaeological record. Slight, incremental changes in ceramic form or decoration can reflect changes in stylistic preferences as they occur over time within one and the same cultural tradition. Larger or more sudden changes may indicate foreign influence or major changes in cooking or eating customs. As a reflection of subsistence systems, stone and bone tools reflect differences between various prehistoric groups as well as major changes in economic activities within one group or region, sometimes necessitated by population growth, human movement, or climate change. Tools are therefore not only very useful for identifying and distinguishing among subsistence communities, they can also be indicators of temporal changes in subsistence systems and intergroup relations.

While ceramics and stone tools are usually discarded when broken, metal objects tend to be melted down and the raw material reused when the objects themselves have become unusable. The only exceptions would be ritual contexts in which people decided to deposit metal objects in the ground and thus took them out of the cycle of melting, recasting, and reusing. Metal objects therefore mainly occur in graves.

In such contexts, metal ornaments, weapons, and tools can be typologically compared with the aim of establishing the relative chronological position of one grave to another. Burial forms and mortuary traditions likewise can be compared and placed in relative chronological position to each other. Grave forms may even show gradual changes over time that allow for establishing a temporal sequence.

Comparative work with the aim of establishing a chronological sequence of features, layers, and sites requires detailed typological work on all object and feature types, an undertaking that cannot be reported in a single article. The present study therefore draws upon classifications established in a more detailed study of all the archaeological material from the Liangshan region (Hein 2013). The artifacts were first grouped by raw material and the characteristics and functional constraints on the various materials were described to establish function. Various aspects of functionality, including "technofunction" (utilitarianism), "sociofunction" (using an object to express social status), and "ideofunction" (using an object for ideological purposes such as in religious ceremonies), influence an artifact's overall form and design (Sackett 1977 : 370). As technofunction can most easily be inferred based on object form, this was the starting point for my analysis.

In the previous study, I focused on questions of identity and culture contact as reflected in similarities and differences in production techniques and object form and decoration as well as object usage (Hein 2014*a*). On the basis of this work, the present study describes object assemblages and features at first separately by site and then sets the sites into spatial and chronological relationship to each other based on stratigraphic evidence, typological comparison of objects and grave types, and radiocarbon dates where available. The study thus starts on the micro-level of local analysis and then gradually widens the gaze to bring increasingly larger portions of the research area into the picture through macro-level analysis. In this fashion, this article establishes cultural sequences for the various subregions from the earliest known settlements to the first century A.D., before discussing general trends observable throughout the research area.

CURRENT STATE OF RESEARCH

Multi-phase sites with thick cultural deposits provide the basis for developing a chronology for southwest Sichuan. These are combined with radiocarbon dates and typological comparisons with material from well-dated sites in nearby regions. Nearly all known stratified sites in the Liangshan region are located in the central Anning River Valley (i.e., Xichang Dayangdui, Yingpanshan, Ma'anshan, and Mianning Sanfentun).[2] Several cultural phases have also been observed at Xichang Henglanshan, Lizhou, Mimilang, Qimugou, and Yongsheng Duizi in northwest Yunnan. Most of the existing radiocarbon dates are from samples taken from the Anning River Valley. On the basis of these findings, Jiang Zhanghua (2007) proposed a widely accepted three-phase chronology for the Anning River Valley: 1) the Henglanshan phase; 2) a transitional phase (represented by Xichang Lizhou, Dayangdui, and Mimilang); and 3) a third phase dominated by megalithic graves.

Finer chronological divisions amongst these phases remain much debated. Various chronological schemes have been suggested for the megalithic graves, for instance. Some are based on grave form, some on ceramic types, others on both. Jiang (2007) distinguished two types of ceramic objects among megalithic grave assemblages but,

since stratigraphic evidence was lacking, did not claim that they belonged to two different time periods. Song Zhimin (1991) proposed a scheme of four construction types that he assigned to different chronological periods from the fifth to the first century B.C. Tong Enzheng (1990) developed a similar scheme but with three instead of four grave types and phases. A publication summarizing comparisons of objects from other regions with those found in megalithic graves in the Anning River Valley provided a chronological scheme consisting of three phases (Sichuansheng et al. 2006*a*). The main difficulty in establishing a chronology here stems from the nature of the megalithic graves themselves. Some had a long use-life and contain objects from a variety of time periods, while others had shorter use-lives. Furthermore, assemblages differ greatly from grave to grave, making it difficult to compare them. Thus, most of the chronologies suggested so far can only be applied to a limited number of graves and none of them have been universally accepted.

As far as absolute dates are concerned, it is generally agreed that the earliest megalithic graves were built during the fifth century B.C., whereas Han coins found in the latest graves securely date them to the early first century A.D. In a recent publication on stone-cist graves in the corridor between Sichuan, Yunnan, and the Qinghai-Tibet Plateau, Luo Erhu (2012) boldly proposes a five-phase chronological framework encompassing all graves with stone installations in Southwest China, excluding only the megalithic graves. Grave forms and their contents differ so vastly from location to location that suggesting a uniform developmental sequence and chronology for all of them is highly problematic. Indeed, Luo's characterization of his five phases remains vague, and the graves from the Liangshan region do not fit his scheme.

Previous research suggests that the development of stone-cist graves in the upper Min River Valley in central Sichuan followed a common sequence (He 2009; Smith 2001; Xie and Jiang 2002). The situation is more problematic in northern Yunnan because of wide regional variability in grave construction and content. Nonetheless, intensive excavation work in recent years has allowed researchers to make considerable strides toward developing relative and absolute chronologies of prehistoric sites in Yunnan (Fan 2007; Xu 1999; Yao 2010). These can be used for comparison with material from southwest Sichuan. The same applies to recent discoveries from Yunnan. Excavations at multi-phased sites with particularly thick deposits and rich assemblages at Jianchuan Haimenkou (Yunnansheng 1958; Yunnansheng, Dalizhou, and Jianchuanxian 2009) and Dali Yinsuodao (Yunnansheng et al. 2009) provide important stratigraphic evidence. Comparing materials from later-period sites in Liangshan with Han material from Sichuan and other places also supports the development of a chronology for the Liangshan region. The vessel typology and chronology proposed recently by Psarras (2015) is particularly useful in this regard.

DEVELOPING A NEW CHRONOLOGICAL FRAMEWORK

Traditional methods of object typology, evidence of changing burial customs and settlement patterns, and hard evidence from site stratigraphies together provide the basis for establishing a relative chronological framework for the Liangshan region. Considering the small number of radiocarbon dates available for the research area, comparing objects from the Liangshan region with finds from more reliably dated sites in other regions is the only way to suggest absolute dates for relative chronological periods. A major difficulty inherent in this comparative approach is that the span

of object usage might differ significantly between regions. For instance, an object type that reached the peak of popularity in the Chengdu Basin during the second century B.C. may only have been adopted in the western mountains several decades later and might then have continued to be used there for several centuries after falling out of fashion in its place of origin. The potential delay or differences in usage or interpretation of specific object forms or decorative motives becomes even more likely for comparanda from places as far away as the northern steppe or the Central Plains. Additionally, Southwest China is characterized by a wide variety of object forms that have no parallels elsewhere, making cross dating difficult.

Another major difficulty in developing a chronological framework for southwest Sichuan is the great diversity of the archaeological material between different subregions and the uneven state of research in the population centers of the central Anning River Valley, the river valleys of the southeast, and the high western and northeastern mountains (Hein 2013 : 14–17). While present-day Xichang, Dechang, and Mianning in the Anning River Valley have been relatively well explored, hardly any sites are known from Muli in the northwest. All proposed absolute and relative dates provided below are suggestions based on currently available material. The chronology developed here will have to be amended as new evidence becomes available.

In the following sections, I introduce the archaeological finds by subregion starting from the well-researched Anning River Valley, before expanding to include the remote mountains of the northwest area.

CENTRAL LIANGSHAN: THE ANNING RIVER VALLEY AND ADJACENT MONTANE AREAS

Early Settlement Finds and Earth-Pit Graves

The Anning River Valley is divided into three subsections, including the southern counties of Dechang and Miyi, Mianning County to the north, and the city of Xichang in the middle. Early assemblages differ somewhat between each subsection but become increasingly similar over time. To show this development and suggest dates for the known sites, I describe the most important assemblages in some detail and connect them to absolute dates where possible.

Central Anning River Valley Sites around Xichang — Developments in the central Anning River Valley around Xichang are fairly well understood and can be grouped into five phases: 1) early Henglanshan (Henglanshan); 2) late Henglanshan (Ma'anshan, Lower Qimugou, and Lower Yingpanshan); 3) an early earth-pit grave phase (middle Lizhou, early Dayangdui, and Yangjiashan); 4) a pre-megalithic phase (late Lizhou, middle Dayangdui, and Mimilang); and 5) the megalithic phase.

Early Henglanshan is represented by the type site Xichang Henglanshan, Layer 3, dating to 2112 ± 62 cal. B.C., and Layer 4 to 2545 ± 47 cal. B.C., with hardly any differences between the assemblages.[3] The material is characterized by coarse sand-tempered low-fired red-brown ceramics accompanied by polished stone woodworking tools, arrowheads, and some perforated stone knives (Fig. 3.1–9). The late Henglanshan sites of Xichang Ma'anshan, Lower Qimugou, and Lower Yingpanshan hold ceramics largely identical with each other and very similar to those from late Henglanshan, but with somewhat different decorations and including leaf-shaped vessel bottoms and double-perforated knives, as have been found at Henglanshan

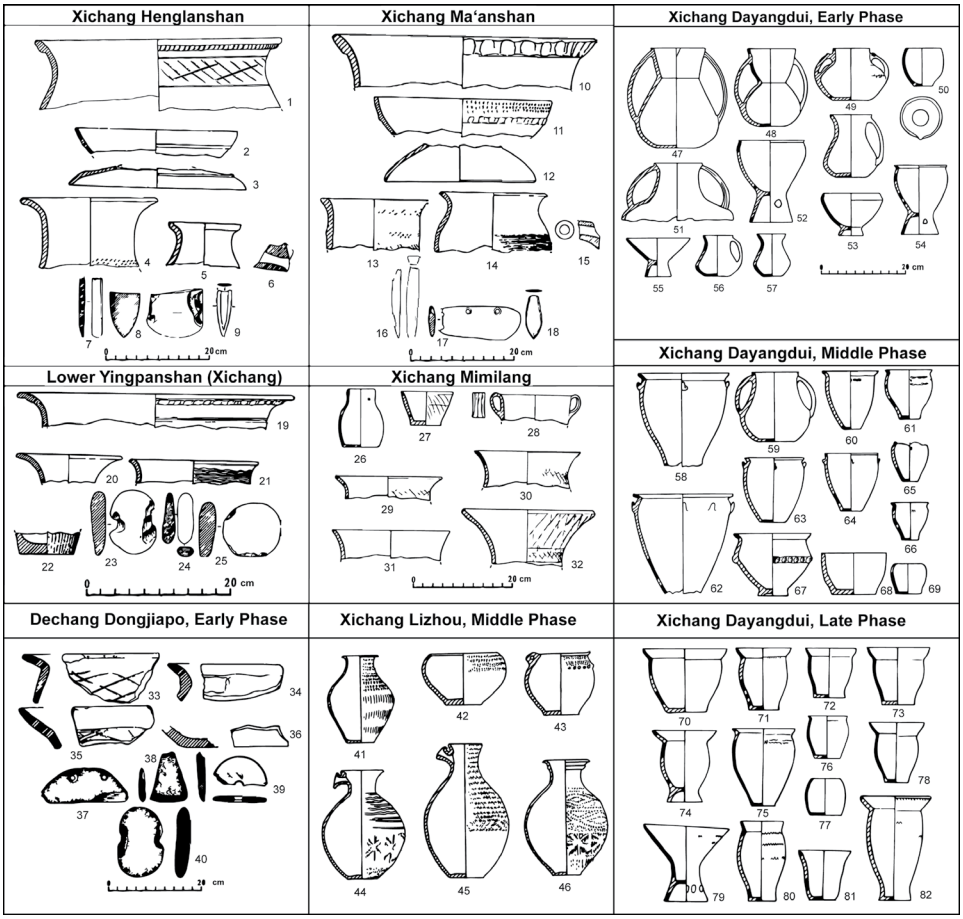

Fig. 3. Ceramics and stone tools: 1–9 from Xichang Henglanshan (Early Henglanshan) (after Chengdu et al. 2006: figs. 8–11); 10–18 from Xichang Ma'anshan (after Chengdu et al. 2006: figs. 17–22); 19–25 from Lower Yingpanshan (after Chengdu et al. 2007*b*: figs. 4–6); 26–32 from Xichang Mimilang (after Jiang 2007: fig. 4; Liangshan et al. 2006: figs. 10, 11); 33–40 from Dechang Dongjiapo, Early Phase (after Zhou 2011: figs. 6, 7, 13, 14, 19, 20); 41–46 from Xichang Lizhou, Middle Phase (after Jiang 2007: figs. 2, 3); 47–83 from Xichang Dayangdui (after Xichangshi et al. 2004: figs. 7, 18, 25).

(albeit only as surface finds). The poorly documented early Lizhou site is said to have held similar finds and likely belongs to the late Henglanshan phase as well.

The settlement material of early Lizhou is superimposed by earth-pit graves with rich ceramic assemblages that fall into two types. One consists of vases and ewers whose surfaces are covered with geometric patterns (graves AM2, AM6, AM10, BM4; Fig. 3.41–46), and the other is comprised of double-handled jars and large numbers of bowls, but no spouted or decorated vessels (graves AM9, BM3, BM8). Since BM4 is cut by BM3, it is likely that the second assemblage type dates later than the first. The second type also encompasses a stout jar with a horn-shaped handle nearly identical to a vessel from a Han grave observed at Lizhou (Lizhou 1980: fig. 6.5), which supports a later date.

The ceramics from the pre-Han graves of late Lizhou are all sand-tempered, low-fired, red-brown in color, and of low quality. Thick ring-handles are attached to the upper part of squat jars that are sometimes decorated with net patterns (Fig. 3.41–46). By contrast, the ceramics from the earth-pit graves of early Dayangdui are of high-fired black-brown fine ware and have a black slip without decoration (Fig. 3.47–83). The handles are long and thin and reach from the high collar to the low belly of these round-bottomed, ovoid vessels. Both in ceramic quality and execution, the early Dayangdui ceramics strongly resemble finds from Qijia Culture sites in Gansu and Qinghai (Debaine-Francfort 1995: figs. 19, 28, 98, 116; Zhongguo 1975: figs. 16, 18). If the earth-pit graves at Dayangdui were indeed built by a group with Qijia connections, this would suggest a date between c. 2200 and 1750 B.C., which would postdate Lower Yingpanshan and early Xichang Lizhou, and either contemporaneous with or slightly later than middle Xichang Lizhou.

Double-handled vessels were also found at Mimilang, but their handles are small, ring-shaped, and attached to straight necks of wide-bodied vessels very different from Lizhou or Dayangdui finds, but more similar to objects from megalithic graves (Fig. 3.26–32). At Mimilang, two radiocarbon dates were taken, one from Layer 5 (89 ± 41 cal. A.D.) and one from Layer 4 (1008 ± 60 cal. B.C.), but as the date from Layer 4 is earlier than the one from Layer 5 instead of the other way around, and the dates rely on only one charcoal sample each (Jiang 2007 : 10), this late date is likely faulty. Stylistic evidence indicates a date contemporaneous with middle Lizhou and early Dayangdui.

The site of Dayangdui has three phases, an early one characterized by the graves with high-fired ceramics described above, a middle one characterized by object pits, and a late one consisting of megalithic graves. The ceramic pits of middle Dayangdui hold double-handled jars similar in form to those from early Dayangdui, but they consist of red or brown sand-tempered ceramic material rather than high-fired black fine ware (Fig. 3.47–83). They are rather different from objects from Gansu, but resemble ceramics from stone-cist graves at Wenchuan Zhaodiancun in northwest Sichuan (Shi 1999: fig. 3). Wenchuan Zhaodiancun dates to around the eighth to seventh centuries B.C., as might middle Dayangdui.

Overlaying early Henglanshan–phase settlement remains, the ceramic deposits of Upper Yingpanshan include very large urns (with or without application bands) and double-handled vessels similar to those at early Dayangdui. These vessels are accompanied by net-weights as seen in the lower layers of Yingpanshan and other vessels with net patterns similar to ceramics at Xichang Mimilang, Dechang Dongjiapo, and Wangjiaping. The high stems of Upper Yingpanshan are reminiscent of objects from Dayangdui and Qimugou in Xichang, which are in turn related to material from megalithic graves. Upper Yingpanshan therefore likely postdates middle and maybe even late Dayangdui.

Southern Anning River Valley Sites around Dechang and Miyi — In the south, we can see three early phases. The first phase is represented by Maojiakan in Dechang County, a site characterized by microliths and coarse ware. The second phase is represented by early Dongjiapo and Wangjiaping sites. The ceramics at these sites are similar to those from Henglanshan both in quality and form, but not in decoration (net and cross patterns instead of simple line incisions). The third phase is represented by late Dongjiapo, which shows close similarities to Mimilang in Xichang.

The microliths at Maojiakan suggest a way of life different from that common around Xichang. Similarly, Wangjiaping holds coarse woodworking and processing tools very different from the fine perforated knives found around Xichang. These finds indicate a general difference in subsistence between the two areas. Nevertheless, the ceramics from Wangjiaping are similar to those from Henglanshan both in quality and form, though not decoration, since they feature net- and cross-patterns instead of simple line incisions. Radiocarbon dates confirm that Wangjiaping Layer 3 (2360 ± 69 cal. B.C.) is contemporary with early Henglanshan, but Maojiakan may be of an earlier date.

The ceramics and stone tools from early Dongjiapo are similar to objects from Wangjiaping (Fig. 3.33–40); however, they are accompanied by a large number of net-weights nearly identical to those from Yingpanshan, indicating parallels in subsistence practices though not ceramic traditions. Incised net patterns, zigzag decorations, single-handled vessels, and fine-polished stone tools resembling objects from Mimilang and from megalithic graves are particularly numerous in late Dongjiapo. Both Mimilang and Dongjiapo contain wide outward-flaring vessels with net patterns. Early Dongjiapo thus likely postdates Wangjiaping, whereas late Dongjiapo might be contemporaneous with Mimilang.

Northern Anning River Valley Sites around Xide and Mianning — Hardly any sites predating megalithic graves are known to exist in the northern part of Anning River Valley. The only properly excavated sites are Gaopo Zhaojiawan, both in Mianning County. Assemblages from these two sites are nearly identical with each other, but very different from anything found in other parts of Anning River Valley. These finds in Mianning consist of red-brown and gray sand-tempered wheel-thrown pottery, mainly in the form of carinated *wan* bowls and large urns and jars. Most of the jars have a row of lug handles around the shoulder and leaf-vein-impressed ring-footed bottoms; a few have high stems and conical spindle whorls. Zhaojiawan additionally holds some pottery with narrow band-handles and Gaopo yields many coil-built, duck-beak-shaped objects usually interpreted as spouts. Single lug handles have been found at middle Dayangdui in Xichang and Dongjiapo in Dechang, but no other close comparanda have been found in the Anning River Valley. Instead, the finds from Mianning more closely resemble objects from the Yeshishan site in Ludian County in northeastern Yunnan (Yunnansheng, Zhaotongshi, and Ludianxian 2009), which in turn shares some traits with Jigongshan in Weining County in Guizhou Province (Guizhousheng et al. 2006; Liu and Sun 2009).

The excavators date Yeshishan to 1300–1900 cal. B.C., but the earlier date is based on two problematic dates with wide error ranges: 1217 ± 121 cal. B.C. and 1347 ± 130 cal. B.C. Based on five radiocarbon dates with less wide error margins, Jigongshan is dated more securely to c. 1400–1100 cal. B.C. The radiocarbon dates from Gaopo are 1379 ± 39 cal. B.C. for Layer 3, 1316 ± 47 cal. B.C. for Layer 2, and 1179 ± 47 cal. B.C. for Layer 1. The radiocarbon dates from Zhaojiawan are 1316 ± 47 cal. B.C. for Layer 2 and 972 ± 53 cal. B.C. for Layer 3. If these dates are correct, then the ceramic form tradition shared by all four sites likely originated in Jigongshan and reached Mianning through Yeshishan. The relationship between Gaopo/Zhaojiawan and other sites in the Anning River Valley remains problematic, however. Chronologically, the lug handles of Dayangdui and Dongjiapo suggest that Gaopo predates middle Dayang-

dui; the band handles at Zhaojiawan and late Dongjiapo indicate Zhaojiawan might be slightly later than Gaopo.

Finds from Anning River Valley suggest that various local groups were interconnected and came into increasingly closer contact with each other as well as with people from other areas over time. This trend becomes even more apparent in the following phase characterized by megalithic graves. During the time megalithic graves began appearing in the Anning River Valley, settlements and earth-pit graves in the neighboring mountains of Puge and Xide show very different assemblages surprisingly consisting of high-fired fine ware in the form of undecorated, crudely formed cups and stout jars without handles. Examples are observed at Tianba and Zhongcun and in the early settlement layers of Xiaoxingchang (all three sites in Puge). Albeit executed in different ceramic materials, the plain jars found at Xiaoxingchang resemble finds from Yangjiashan in Xichang. Since they are overlain by megalithic graves, they can be dated to the pre-megalithic phase. Assigning an absolute date is more difficult and will require further fieldwork and scientific dating.

The stone tool assemblages at these as well as at later sites are characterized by a considerable number of arrowheads and coarse grinding tools. These artifacts indicate a mixed form of subsistence dominated by hunting, which is very different from the agricultural assemblages of the Anning River Valley. Identical tool assemblages and high-fired plain jars have been reported from Wadaluo in Puge, but some of the cups and stout jars resemble objects from the megalithic graves of Wanqiu in Miyi (albeit of a finer ceramic quality). Handled or spouted jars or incised and impressed decoration motifs known from megalithic grave assemblages in the Anning River Valley are not common at Wadaluo. The absolute date of Wadaluo is not entirely clear, but the site likely postdates Tianba and Zhongcun and may predate the megalithic graves of Xiaoxingchang.

Megalithic Graves and Related Sites in the Anning River Valley

The existence of megalithic graves suggests that a complex set of burial rituals was common throughout the entire Anning River Valley and the immediately adjacent mountains of Puge and Xide. However, grave form, mode of interment, and object assemblages differ amongst the sites in these areas and change over time. Based on comparisons of ceramic form and quality, the presence or absence and type of other burial goods, grave size, interment type, and associated rituals, I distinguish four main phases (I–IV), with Phase II and III each further divided into two subphases (Table 1).

One major difficulty with comparing and dating megalithic graves in southwest Sichuan is that many have been used for several instances of interment over extended periods of time. To mitigate this problem, I initially relied on: 1) graves used for a single instance of interment; 2) stratified sites containing megalithic graves (i.e., Xiaoxingchang in Puge and Dayangdui, Lizhou, Maliucun, Mimilang, and Qimugou in Xichang); 3) comparing material from well-dated sites; and 4) radiocarbon dates. I then integrated data from graves with longer use-lives.

The earliest megalithic graves were found at Dayangdui and Tianwangshan (both in Xichang). These graves were used for single instances of probably secondary interment of a small number of people. The majority of ceramic vessels associated with

Table 1. Characteristics of Main Phases and Subphases of Megalithic Graves in the Anning River Valley Containing Ceramics and Other Objects

PHASE	TENTATIVE DATE	CERAMICS	OTHER OBJECTS	GRAVES	EXAMPLES
I	Late 8th–6th c. B.C.	*Forms*: few ceramics, urns, jars, goblets, cups *Quality*: high-fired, slipped, fine ware	No other objects	Small graves, single instance of interment	Xichang: Dayangdui DM1, DM2; Tianwangshan M10
IIa	Early 5th c. B.C.	*Forms*: spouted jars, high-stemmed goblets, round-bodied goblets *Quality*: high-fired, slipped, fine ware	Perforated knives, spindle whorls, stone arrowheads, metal bracelets, grinding tools	Small and medium-sized graves, group interments, reopening	Xichang: Bahe Baozi M4, M6; Maliucun H1; Qimugou M1, M2; Yanjiashan M3
IIb	Late 5th c. BC	*Forms*: spouted jars with foot and knob handles, round-bodied goblets, small vessels with thin double-handles *Quality*: high-fired, fine and sand-tempered ware	Spindle whorls, arrowheads, bronze knives, bracelets, bone rings	Medium-sized graves, group interments, reopening	Xichang: Lianghuan Xide: Lake Sihe M6
IIIa	4th–3rd c. BC	*Forms*: single- and double-handled round-bodied vessels, often with water-ripple application, spouted vessels with high trumpet-shaped neck and handle *Quality*: coarse sand-tempered, low-fired, red-brown ceramics	Stone and metal arrowheads, grinding rods, adzes, chisels, spindle whorls, metal bracelets, beads, earrings, hair combs	Medium-sized or large graves,* group interments, reopening, re-entering	Dechang: Wangjiatian Mianning: Sanfentun Miyi: Wanqiu M1–2 Puge: Xiaoxingchang BM1 Xichang: Upper Qimugou
IIIb	2nd–1st c. B.C.	*Forms*: single- and double-handled vessels with elongated body, often elaborate handle decoration, spouted vessels with high straight neck *Quality*: coarse sand-tempered, low-fired, red-brown ceramics	Beads, metal knives, arrowheads, metal bracelets, perforated animal teeth (Puge only)	Medium-sized or large graves,* group interments, reopening, re-entering	Dechang: Arong M1, M3, M4 Puge: Xiaoxingchang AM1
IV	A.D. 1st–2nd c.	*Forms*: single- and double-handled undecorated small vessels with long narrow handles, spouted jars with high neck, small-footed beakers *Quality*: high-polished, high-fired, red fine ware	Bronze knives, iron swords, large metal hair combs, clothing applications, *ling* bells, metal bracelets, rings, earrings, beads, grinding rods	Large or very large, multiple interments, re-entering	Xichang: Hexi M3; Huangshuitang M1; Wanao M1; Xijiao M1 Xide: Guluqiao M1; Lake Sihe M8

*With the exception of small graves at Puge.

these graves were found in nearby pits. Neither graves nor pits contained weapons, tools, or personal ornaments. The associated ceramic assemblages consist of drinking and pouring vessels, suggesting that communal rituals were held at the burials. The ceramic quality resembles that of middle Dayangdui finds, but the forms differ, with footed beakers and plain jars with high outward-flaring collars instead of large storage jars. Based on these differences and the stratigraphy of the sites, Phase I of the megalithic graves may be dated to the late eighth to sixth centuries B.C.

These early megalithic graves are found exclusively in the central Anning River Valley around Xichang, but from Phase II onward, the custom of building megalithic graves extends farther south and into the eastern mountains of Puge and Xide. The only radiocarbon dates obtained from megalithic graves were taken from human bones in Xiaoxingchang AM1 and BM2 in Puge; both date to 601 ± 127 cal. B.C. Graves AM1 and AM2 at Xiaoxingchang are relatively small with a limited number of interments similar to those at Dayangdui and Tianwangshan, while graves BM1–3 are medium-sized and hold up to 125 skeletons each. The assemblages combine a few high-fired, undecorated ceramic vessels typical of Puge with a considerable number of knives, arrowheads, and personal ornaments. Many Phase II graves in Xichang, such as Bahe Baozi M4 and M6 or those at Lianghuan, combine a few ceramic vessels (mainly spouted jars) with a few knives and spindle whorls, again similar to finds from Puge and Xide.

Besides megalithic structures, the earth-pit graves of Qimugou M1 and M2 and the ceramic pits of Maliucun and Upper Yingpanshan (all in Xichang) furnish a large number of ceramic vessels, including goblets, ewers, and jars made of the same high-fired, black-brown fine material as the ceramics from the megalithic graves of Dayangdui. These finds indicate a shared ceramic tradition. The Qimugou earth-pit graves superimpose the settlement remains of Lower Qimugou discussed above and are in turn superimposed by settlement Layer 3, whose coarse sand-tempered handled vessels resemble finds from the megalithic graves of Wanqiu in Miyi and Arong in Dechang (Fig. 4.1–12). At Qimugou, one earth-pit grave with three chopper stones (M3) and one round pit with one large urn and one smaller jar (W1) cut into Layer 3. The urn resembles objects from the Yingpanshan deposits, which are superimposed by Han material, and the jar resembles Han-style ceramics indicating a Western Han date (206 B.C.–A.D. 9). The chronological sequence in Xichang is therefore Mimilang

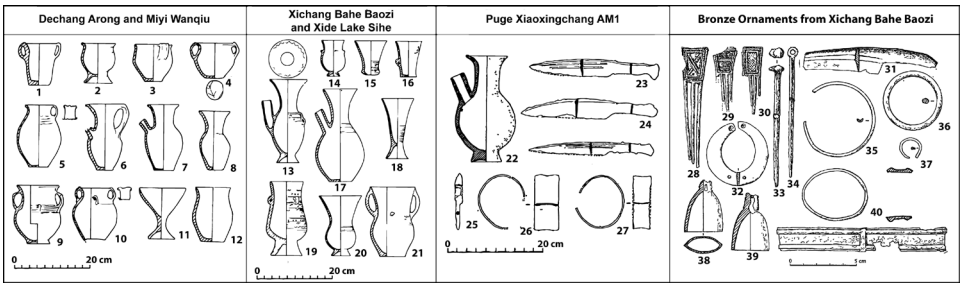

Fig. 4. Finds from megalithic graves: ceramics: 1–4, 6, 8, 9, 11, 12 from Miyi Wanqiu; 5, 7, 10 from Dechang Arong; 13, 14, 16–19 from Xichang Bahe Baozi; 15, 20 from Xide Lake Gongshe (after Jiang 2007: figs. 6, 7); 22–28 from Xiaoxingchang AM1 (Liangshan and Pugexian 1987: figs. 8, 9); bronze ornaments: 29–40 from Xichang Bahe Baozi (after Sichuansheng and Anninghe 1976: fig. 2).

(pre-megalithic), Upper Yingpanshan (early Phase IIa), Qimugou M1 and M2 (late Phase IIa), Qimugou W1 (Phase IV).

During Phase IIb (around the fifth century B.C.), we thus see a shift from the fine ware of Phase I and Phase IIa to the red low-fired coarse ware of Phases III and IV. In Phase III, such ceramics come to dominate in the form of globular jars with short band handles that appear for the first time at Qimugou Layer 3 and then in increasing numbers at settlement sites (i.e., Xichang Wangjiatian and Mianning Sanfentun) and in megalithic graves (i.e., Miyi Wanqiu and Dechang Arong) throughout the entire Anning River Valley. Such jars are characteristic of stone-cist graves in the upper Min River Valley dating to the third century B.C. (He 2009). Similar vessels occur in megalithic graves holding iron objects (e.g., Miyi Wanqiu), but they are never found next to ceramics resembling those from Xichang Qimugou M1 and M2. Phase III thus dates approximately to the fourth to third centuries B.C. This third phase also sees the appearance of hair combs (Fig. 4.22–40), small bronze bells, and in the case of Puge perforated animal teeth reflecting changes in personal attire. At the same time, the grave size increases and the number of interments increases. These trends have already started in the latter part of Phase II and continue into Phase IV, culminating in very large graves such as Xichang Wanao. Only in Puge do the megalithic graves stay small, possibly because of lack of space in the narrow mountain valleys. The Phase IV graves are often dated by the presence of Han-style iron knives with ring handles or the presence of *daquan wushi* 大泉五十 (c. A.D. 9–14) or *wuzhu* 五銖 (c. A.D. 25) coins suggesting a date of A.D. first or second century at least as *terminus post quem*.

As many megalithic graves have been reopened several times, any dates suggested by means of object typology can only help to determine one point during the use life of the grave. Xide Lake Sihe M1, for instance, contains both a goblet similar to objects from Xichang Qimugou M1 and M2 and Han objects (coins and a Han-style *fu* vessel), showing that the grave was likely in use from the fourth to the second century B.C. at least. A large number of objects and skeletons like those observed at Puge Xiaoxingchang BM1 and BM4 or Xide Guluqiao M1 may indicate a long use-life. If the objects all closely resemble each other, however, the large assemblage was more likely the outcome of intensive usage over a shorter period of time (e.g., Dechang Arong). By contrast, at Miyi Wanqiu, the same basic vessel forms occur in a variety of types, suggesting an extended period of use.

Based on these comparisons, it is possible to distinguish four main phases for megalithic graves. Phase I dates to the eighth to the sixth century B.C.; Phase II to the early fifth century B.C.; Phase III to the fourth to the third century B.C.; and Phase IV to the second century B.C. to the early first century A.D. Given the long use-life of some of these graves, Phases II and III might overlap, as might Phases III and IV. The general development, however, is clear: the first graves were small and held single interments with few objects; over time, they grew in size, number of interred, and complexity of associated rituals. The urn pits of upper Xichang Yingpanshan and Xichang Qinmugou are likely connected with megalithic graves, dating to Phases IIa and IV respectively. The earth-pit graves at Xichang Qimugou are contemporaneous with the megalithic graves of Phase IIb, as is the ceramic deposit of Xichang Maliucun.

By incorporating this information into data from the earlier earth-pit graves of Lizhou and early Dayangdui (both in Xichang) and ceramic deposits from middle

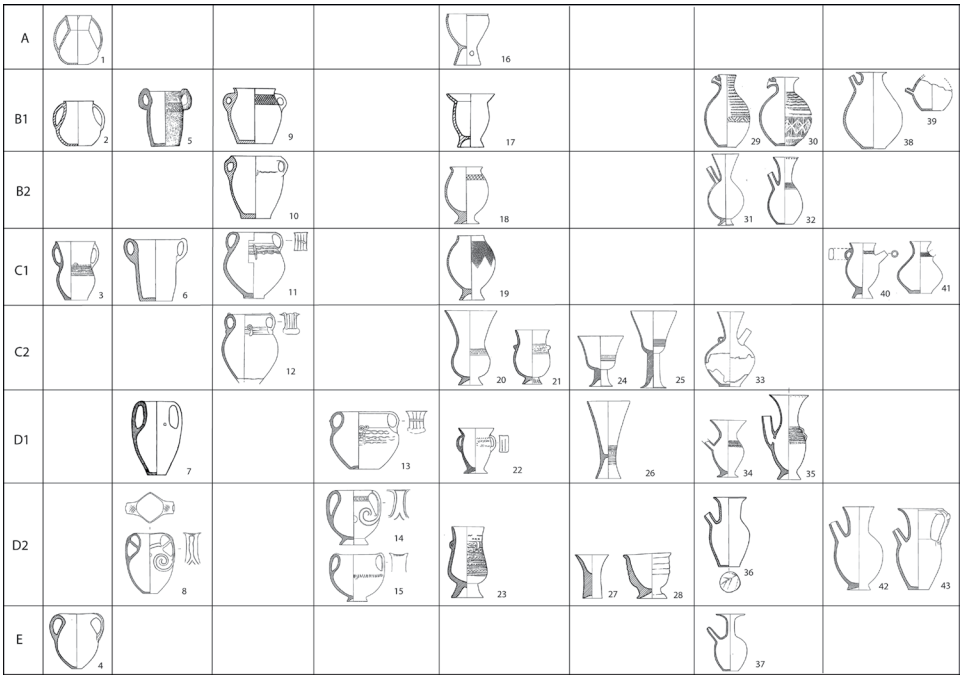

Fig. 5. Typological development of double-handled jars (columns 1–4), goblets (column 5), small-footed cups (column 6), and spouted jars (columns 7–8) found throughout the Liangshan region. Objects: 12, 42 from Dechang Arong; 9, 18, 38, 39 from Huili Fenjiwan; 10 from Huili Guojiabao; 19 from Huili Leijishan; 6, 11, 43 from Miyi Wanqiu; 7 from Ninglang Daxingzhen; 36 from Puge Xiaoxingchang; 20, 21, 28, 32 from Xichang Bahe Baozi; 1, 2, 16, 17 from Xichang Dayangdui; 27 from Xichang Hexi; 22, 34 from Xichang Lianghuan; 5, 29, 30 from Xichang Lizhou; 33, 40, 41 from Xichang Maliucun; 24–26, 31 from Xichang Qimugou; 4, 37 from Xichang Xijiao; 3, 23, 35 from Xide Lake Sihe; 8, 13–15 from Yanyuan Laolongtou.

Lizhou, we can distinguish five main phases and several subphases in ceramic forms in central Liangshan, with the early Dayangdui assemblages falling in a pre-megalithic Phase I and the Lizhou graves and middle Dayangdui ceramics into Phase IIa; megalithic graves then appear in ceramics Phase IIb (Fig. 5).

NORTHEASTERN LIANGSHAN: ZHAOJUE, YUEXI, AND NEIGHBORING AREAS

While Xide and to a lesser extent Puge are closely linked with developments in the Anning River Valley, people who inhabited other montane areas in northeastern Liangshan do not seem to have adopted the custom of erecting megalithic graves. Instead, various types of smaller stone graves are typical for the area around Zhaojue and Yuexi.

Many different grave forms exist next to each other in Zhaojue County. Since all of them contain multiple secondary burials and only a limited number of often unique objects, or sometimes none at all, assessing their dates is difficult. The only graves that have at least a clear *terminus post quem* are those containing Han-style objects. The brick-wall-like stone-construction graves at Zhaojue Chike Boxixian clearly imitate Han graves. They contain unique ornaments of semiprecious stone and

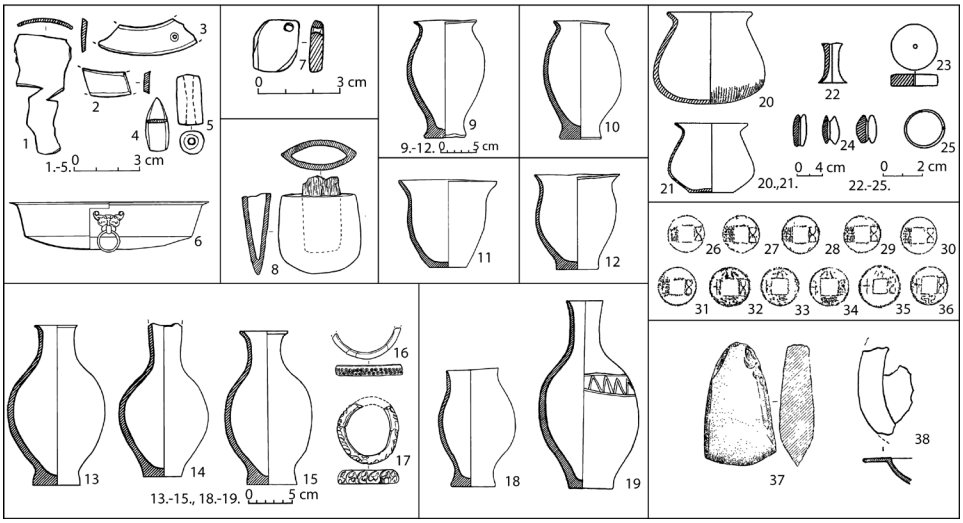

Fig. 6. Objects from stone-construction graves: 1–19 from Zhaojue Eba Buji (1–6 in M1, 7 in M2, 8 and 9 in M3) and Pusu Bohuang (10 in M2, 11 in M11, 12 in M8, 13–15 in M9, 16 and 17 in M3, 18 and 19 in M4) (after Liangshan et al. 2009); 20–36 from Zhaojue Chike Boxixian (after Lianghan et al. 2010: figs. 8, 9); 37–38 from Erba Keku M4 (after Liangshan Yizu Diqu Kaogudui 1981: figs. 7, 8).

metal next to typical Han ceramics and coins, suggesting a date around the first to second century A.D. (Fig. 6).

Zhaojue Eba Buji M1 held a bronze basin nearly identical to objects from Han graves at the Weining and Mancheng sites in Guizhou Province southeast of Sichuan (Guizhousheng and Weiningxian 1981: fig. 11; Zhongguo 1980:58). The form of the finely worked bronze axe found in Zhaojue Eba Buji M3 is common to both Western and Eastern Han sites, indicating a similar date. The single nephrite pendant found in M2 cannot be assigned a date, but as the grave structure of all three graves is the same, they are likely contemporaneous. The metal-basin fragment found in Zhaojue Erba Keku M4 is poor quality and does not resemble any known Han objects. It was accompanied by finely polished arrowheads similar to those from grave M5 and a stone axe similar to an object from M9 (both at the same site). All of these stone items closely resemble finds from the settlement layers of Puge Xiaoxingchang, indicating similar dates.

The ceramics from the stone graves of Zhaojue Fuchengqu show a strong resemblance to finds from Puge and Xichang. The flat-bottomed jars are nearly identical to objects from the settlement layers of Wadaluo and Xiaoxingchang (both in Puge), while the footed bowls are of the same form as those in the early earth-pit graves at Xichang Dayangdui. The graves at Fuchengqu are likely roughly contemporaneous with those at Wadaluo and thus considerably earlier than those at Erba Keku.

Although the graves of Pusu Bohuang and Eba Buji are located on the same hill, the Pusu Bohuang graves are considerably earlier in date. The plain ceramic vessels found in the graves at Pusu Bohuang are again different from ceramics found in other sites in Zhaojue. They resemble ceramics from the stone-construction graves at Xiaotuanshan and Xiaoyingpan in Huili and Yingpanbao in Luquan, which date to the Late Neolithic (see below).

Even less research has been conducted around Yuexi than in Zhaojue, but the contents of the few earth-pit graves known from Huayang and Liaojiashan in Yuexi are nearly identical with some of the stone-cist graves along the upper Min River (e.g., Sichuansheng and Maowenxian 1983: figs. 12, 13). They contain a large number of bronze vessels, bronze and composite swords, knives, double-handled ceramic jars, and bronze ornaments that date them to the Western Han (206 B.C.–A.D. 9).

SOUTHEASTERN LIANGSHAN: PANZHIHUA, HUILI, AND NEIGHBORING AREAS

The area around Huili County and Panzhihua City in southern Liangshan developed independently from the Anning River Valley area, but was closely connected to northern Yunnan. After an early phase with cave and open-air sites dominated by microlithic assemblages similar to finds from Yunnan, we see the emergence of settlement communities relying increasingly on agriculture. They buried their dead in earth-pit graves constructed with or without stone and accompanied mostly by ceramic vessels whose forms changed over time. The graves and their assemblages at sites such as Huili Guojiabao, Luluochong, and Zhuanchangba and Xide Guoyuan differ by location farther south or north and show strong connections to communities outside the area southwest of the Liangshan region.

There are numerous cave sites in northern Yunnan (Zhongguo 2009), but Panzhihua is the only place in Sichuan with known cave sites: Yanwan in Xiqu and Huilongwa and Xicaoping in Renhe. Like the open-air Yangjia Wuji site in Huili, the two cave sites in Renhe hold microlithic assemblages and considerable amounts of faunal remains, but are devoid of ceramics. The Xiqu Yanwan cave site is partially open-air. It contains flaked-stone tools and ceramics, but no microliths. It is therefore conventionally dated to the Early Neolithic, while the other cave sites are assigned to the late Palaeolithic. These are only assessments of modes of subsistence, however, not actual dates.

Nevertheless, the differences between ceramics at sites characterized by coarse-stone tools compared with sites containing polished-stone tools indicate differences in date. Huili Houzidong and neighboring sites hold peculiar coarsely flaked shouldered axes and adzes (Sichuansheng et al. 2009: figs. 3–5). The associated ceramics (i.e., black-slipped, low-fired, sand-tempered, small to medium-sized wide-mouthed jars) resemble finds from Dechang Maojiakan, indicating a similar approximate date around 2500 B.C.

Ceramics at Huili Dongzui fall into two phases. The first phase is characterized by jars with moderately outward-flaring rims, some of them with finger-tip-impressed appliqué bands, others with incised decoration reminiscent of ceramics at Dechang Wangjiaping (Chengdu, Liangshanzhou, and Huilixian 2008: figs. 5, 10–15). The later layers contain ceramic rims with corded-ware designs similar to finds from Caiyuanzi and Mopandi in Yongren, Yunnan (Yunnansheng 1985; Yunnansheng et al. 2003) and handles with a middle ridge reminiscent of objects from Haimenkou in Jianchuan, Yunnan (Yunnansheng 1995; Yunnansheng, Dalizhou, and Jianchuanxian 2009). Based on these comparisons, Huili Dongzui likely dates to 1500–1100 B.C.

The ceramics at Huili Dongzui are very similar in quality to the low-fired, hand-thrown, yellow coarse ware from Huili Washitian, but their forms are very different. Instead of handled jars with a corded-ware design, the earth-pit graves and settlement layers at Washitian contain open bowls, plain flat-bottomed jars, and stemmed goblets

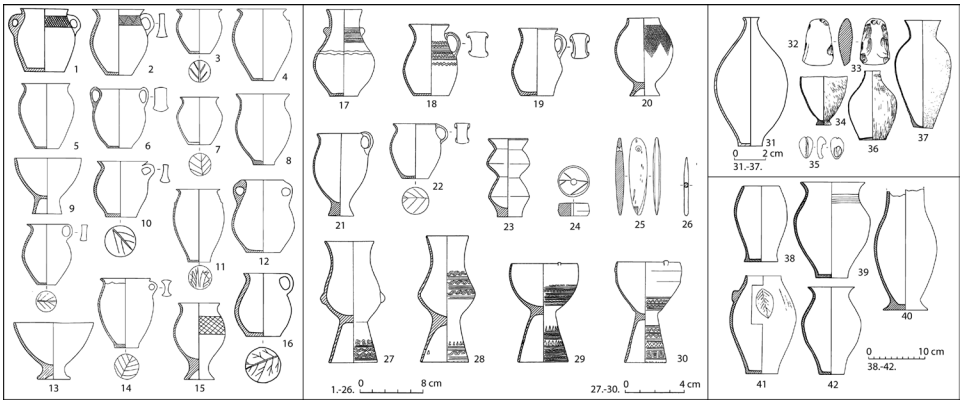

Fig. 7. Objects from Huili: 1–16 from Fenjiwan (after Huilixian et al. 2004: fig. 11); 17–30 from Leijiashan M1 (after Chengdu, Liangshanzhou, amd Huilixian 2009: figs. 3–5); 31–37 from Luquan Yingpanbao; 38–42 from Xiaoyingpan (after Kunmingshi et al. 2007: figs. 8, 18; Sichuansheng et al. 2009: figs. 7–9).

with a net pattern. These ceramics are associated with needles, arrowheads, and axes made of stone, bone, or bronze, and several stone molds for metal tools, all pointing to local metalworking and a later date. The spearhead form of one of the molds is almost identical with finds from Yongsheng Longze dating to the fifth century B.C. (Yang et al. 2009:207–211), and the *ge* 戈 dagger-axe mold is typical of the Shu style dating between the sixth and fifth centuries B.C. (Tao 1981). These finds suggest an overall date of the fifth century B.C. for Huili Washitian.

The large cemetery at Huili Fenjiwan has over 150 graves furnished mainly with ceramic objects, all of a quality similar to those from Huili Dongzui and Huili Washitian, while their forms and decorations show parallels with the finds from Anning River Valley sites. Large urns and jars resemble those found in Xichang Qimugou and Xichang Yingpangshan; goblet forms are like those in Dechang Dayangdui and Xichang Tianwangshan, and double-handled vessels and spouted ewers and net-pattern decorations are like those from Xichang Lizhou (Fig. 7.1–16). A few graves at Huili Fenjiwan held *yue* 鉞 axes nearly identical to the axe from Huili Washitian and axes from sites in Yunnan (Li 1983: fig. 5; Xi 1991: figs. 3, 6). A decorated spearhead likewise has comparanda in northern Yunnan (Yunnansheng 1983). These parallels allow a date of around the fifth to the fourth century B.C. to be assigned to Huili Fenjiwan.

The differences amongst the assemblages suggest internal variation within Fenjiwan (e.g., Nos. 9, 18, 38, 39 in Fig. 5). Based on number and type of ceramic vessels and other objects, I distinguish three main groups, with Groups 1 and 3 further divided into three subgroups each (Table 2). The question remains if these groups are chronologically or socially defined. Handled and spouted forms and stemmed bowls are uncommon in early settlement finds in southeastern Liangshan, but all three forms occur together at Fenjiwan. Their association with metal weapons suggests a relatively late date for Group 3 assemblages. Large urn forms from Groups 1 and 2 are hardly ever associated with such objects. It is therefore likely that Groups 1–3 represent chronological phases, while variation amongst the subgroups may reflect social

Table 2. Grave Groups at Huili Fenjiwan

GROUP	TENTATIVE DATE	URN/JAR	OTHER CERAMICS	TOOLS	METAL
1a	Early to mid-5th c. B.C.	1–3 urns and/or jars	No other ceramics	No tools	No metal
1b		0–1 jar	No other ceramics	1 stone axe	No metal
1c		1–2 jars	No other ceramics	1–2 spindle whorls	No metal
2	Late 5th c. B.C.	1–5 urns and/or jars	Bowls, goblets, ewers, vases, type C single- or type D or E double-handled jar, cups; up to 12 vessels	0–2 stone ornaments and/or spindle whorls	No metal
3a	Early 4th c. B.C.	0–1 jar	No other ceramics	No tools	1–2 bronze objects (bracelets, finger rings, other metal ornaments)
3b		0–3 urns or jars	1–2 goblets, ewers, type I single-handled jars, *dou*, or bowls	0–1 stone arrows	1–5 bronze objects (bracelets, ornaments, swords, spears, *yue* axes)
3c		1–2 urns or jars	1 *dou* or single-handled jar of type I	0–1 spindle whorls	No metal

differentiation. Based on parallels with objects from neighboring regions, Group 1 can be dated to the early to mid-fifth century B.C., Group 2 to the late fifth, and Group 3 to the early fourth century B.C.

Farther south, Xiaoyingpan and Xiaotuanshan in Huili County and Luquan Yingpanbao in Panzhihua City are characterized by small, near-empty slate graves, a few of which contain large jars similar to finds from Yongdingzhen in Yunnan (Chuxiong and Yunnansheng 1986: fig. 6) and from Fenjiwan Group I (Fig. 7.38–42). Narrow-necked vases are known from the three sites and Yongdingzhen, but not from Fenjiwan, indicating an early local tradition.

The ceramics of Huili Leijiashan M1 are even more distinctive. They are high-fired, fine-paste wares with surface decorations very different from the low-fired, coarse ceramics with limited decorations otherwise typical for the southeast (Fig. 7.17–30). Some of the vessels (moderately decorated, single-handled jars, vases, and goblets) resemble objects from Fenjiwan and both sites share the custom of placing flat river cobbles into the graves. The jars with ear-shaped handles seen at Leijiashan as well as Fenjiwan resemble objects from Yuanmou Dadunzi and other Late Neolithic to early Bronze Age sites in southern Yunnan (Yunnansheng 1977: fig. 17.6). These goblet forms also resemble objects from Phase IIa megalithic graves, and the stout single-handled jars with leaf-vein impressions on the bottom are not unlike objects from Phase IIb megalithic graves. Huili Miaozi Laobao finds are nearly identical with

those from Leijiashan M1; ceramics from both sites likely date to around the third century B.C.

The graves of Huili Guojiabao contain high-fired fine ware as well, but the forms and decorations differ substantially from those at Huili Leijiashan (Fig. 8.1–39). Guojiabao's grave assemblages are characterized by single- and double-handled vessels accompanied by turquoise beads, bronze buttons, and other ornaments similar to those from the megalithic graves of Dechang Arong. Large numbers of bronze weapons and ornaments are nearly identical with finds from the Yanyuan Basin northwest of Huili. The bronze bracelets and some of the weapon types seen at Huili Guojiabao and in Yanyuan are commonly found in stone-construction graves throughout Southwest China. Belt hooks and scabbard tips at Huili Guojiabao and in Yanyuan are reminiscent of finds from stone-cist graves in northwest Sichuan (Aba and Lixian 1987; Sichuansheng et al. 1999). Rabbit-head-shaped bronze ornaments also appear in earth-pit graves (with or without stone installations) in Yunnan (Yunnansheng 2005). All of these comparanda date between the fourth and the first centuries B.C., as do findings from Dechang Arong. Therefore, Guojiabao and the finds from the Yanyuan Basin are dated to the same period.

Deposits in the Huili sites of Guoyuan, Luoluochong, and Zhuanchangba likewise contain objects completely different from any other finds in southeastern Liangshan (Huilixian 1977; Tao and Zhaodian 1982). Guoyuan and Luoluochong furnished one Shizhaishan-type bronze drum each. The form, quality, and material composition of these two drums identify them as imports from Yunnan dating to the third to the second century B.C. (Zhongguo 1988 : 37–47). A set of six *bianzhong* 編鐘 bells found at Zhuanchangba have no exact parallel anywhere else, and their mode of deposition is also unique. Sets of bells are found in graves in many parts of China, but separate or single deposits are uncommon. Within the research area, only Yanyuan Laolongtou M4 contained a *bianzhong* bell that did not come in a set. Using sets of bells as a musical instrument was common in the Central Plains, but likely unknown here. Bells of similar form have been found in great numbers throughout Yunnan, Guangxi, Guangdong, and northern Viet Nam (Falkenhausen 1988 : 561–563), but the decoration and metal composition of the Zhuanchangba bells identify them as a local product (Hein 2013 : 497–500). The bells from Zhuanchangba likely date to the first century A.D.

Evidence to the west of Huili in Panzhihua is so sparse that it is difficult to decide if the area is culturally connected to southeastern, western, or central Liangshan. Most available evidence comes from trapezoidal stone-construction graves arranged in neat rows in large cemeteries similar to graves in the upper Min River Valley. Only a single object from a grave at Yanyuan Yumen Wanxiao has been published: a stout jar with a high-narrow neck, wide shoulders, and ring handles strongly reminiscent of objects from Xichang Mimilang (Dukoushi 1986: fig. 2).[4] Based on the parallels with Mimilang and the upper Min River area, graves at Yuman Wanxiao in Yanyuan can be dated tentatively between the seventh and the third centuries B.C.

NORTHWESTERN LIANGSHAN: MULI, NINGLANG, AND YANYUAN

Two major subsections can be distinguished in the northwestern part of the research area: the high-altitude mountains of Muli constitute one section and the Yanyuan Basin and its surrounding mountains (including Ninglang) the other. Very little

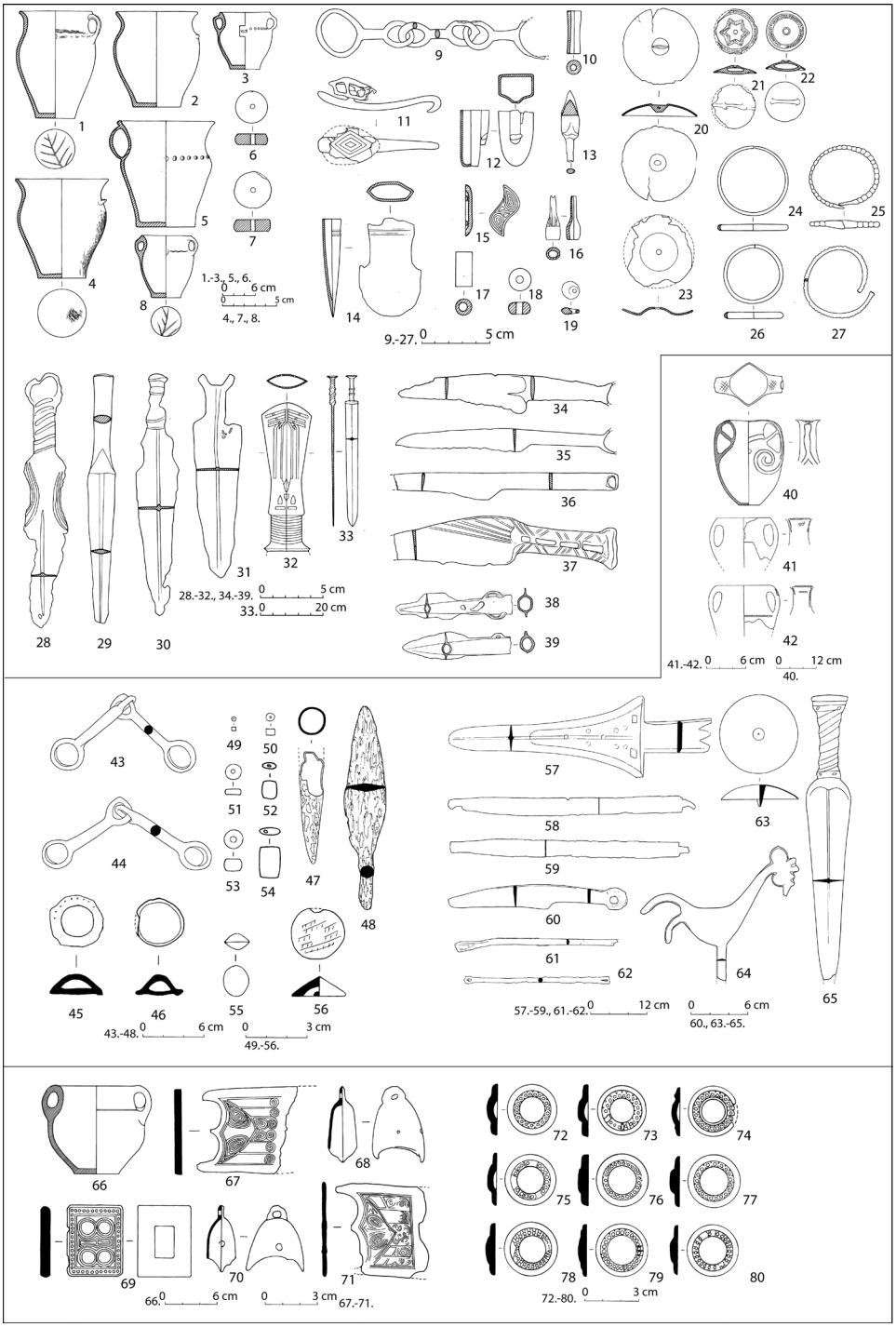

Fig. 8. Ceramics and bronze objects from the Northwest and Southeast: 1–39 from Huili Guojiabao (after Chengdu 2010: figs. 4–10); 40–65 from Yanyuan Laolongtou M4 (after Liangshan and Chengdu 2009: fig. 4–6); 66–80 from Yanyuan Laolongtou M9 (after Liangshan and Chengdu 2009: figs. 18, 19).

research has been conducted in the entire northwest area, so our understanding of these subsections is patchy. The only sites reported from northwest Liangshan are Muli Qingrenbao and Shaoxiang Liangzi (Sichuansheng et al. 2012). The stone building observed at Qingrenbao is unique to the research area, but similar structures have been found at a small number of sites in Yunnan, northwest Sichuan, and Tibet (Aba et al. 2005; Sichuan et al. 2007; Sichuansheng and Ganzi 1998; Sichuansheng et al. 2003; Xizang and Sichuan 1985; Ya'an 1992; Yunnansheng, Dalizhou, and Jianchuanxian 2009). The dates for these buildings range widely from around 2000 B.C. to A.D. 100, but the foundations at Qingrenbao are most similar to features at the Dingdong Juzhu site in western Tibet, which dates to the fifth to the second century B.C. The ceramics found at Muli Qingrenbao and Shaoxiang Liangzi are largely identical in quality, form, and decoration, comprising jars with small band handles, vessels with flat horizontal grips, and jars with outward-flaring openings (Sichuansheng et al. 2012: fig. 6). The handled vessels resemble finds from Yanyuan as well as Deqin in northern Yunnan dating to the fourth to the first centuries B.C., suggesting a similar date for sites in Muli.

Settlement finds like this are rare in the northwestern area. The majority of objects reputedly from the western mountains were retrieved from the art market. A comparison of art-market finds with provenienced finds demonstrates that most of them came from local graves, but some items of foreign origin were also present among art-market finds and in local graves (Hein 2014*b*).[5] The finds from Yanyuan in particular show an astonishing combination of various outside connections and local particularities. The elongated double-handled jars and small single-handled cups from Ninglang Daxingzhen are similar to objects found at Dechang Arong and other sites belonging to Phase IIIb of megalithic graves (Yunnansheng 1983*b*: figs. 5, 6). On the other hand, the combination of metal objects (including swords with three-pronged and torqued hilts, axes, ring-shaped pommel knives, spearheads with side loops, and mirrors) is virtually identical with grave assemblages from Deqin Yongzhi in Yunnan (Yunnansheng 1975). The sword types and mirrors are common to stone-cist graves on the upper Min River and occur even more often in northern Yunnan, particularly in Deqin and Chuxiong (Aba and Chengdu 2009). All of the comparanda date between the fifth and the first centuries B.C., but considering the parallels with Arong and lack of composite weapons or Han-type vessels, Ninglang Daxingzhen may fall into a narrower window of the fourth to the third century B.C.

Various types of double-handled vessels with a double-spiral motif occur at Ninglang Daxingzhen, in stone-cist graves along the upper Min River Valley, at Deqin Yongzhi (Yunnansheng 1975: figs. 4, 5), and in grave M4 at Yanyuan Laolongtou (Fig. 8.40). The subtype most similar to the vessels from Laolongtou M4 date to the second to the first century B.C. A drum and bell found in Laolongtou M4 are similar to third- to second-century B.C. objects from the Shizhaishan site in Northwest China, but the iron spearheads resemble objects from Phase IV megalithic graves at the Kunming Yangfutou site in central Yunnan, suggesting a slightly later date (Yunnansheng et al. 2005). Yanyuan Maojiaba M1 and M2 both held Shizhaishan-style drums, but the drum in Maojiaba M2 was associated with a composite weapon and an iron spear similar to the one in Yanyuan Laolongtou M4, while Maojiaba M1 was devoid of iron objects. Maojiaba M2 is likely contemporaneous with Laolongtou M4, but Maojiaba M1 dates earlier.

The surface finds from Yanyuan Caojiawan resemble the Yanyuan Laolongtou M4 assemblage, suggesting a similar date. Laolongtou M11 furnished a different type of spearhead accompanied by a dagger with a fish-tail handle. This dagger type has parallels in Laolongtou M7, Deqin Nagu in Yunnan (Yunnansheng 1983), and several sites in northwest Sichuan (Baoxingxian 1982). Laolongtou M7 and M11 likely date between the second and the early first centuries B.C. The rich assemblages from Laolongtou M6 and M9 are very similar to each other, suggesting close dates. They both contain stout double-handled vessels quite different from those in M4, but similar to objects from Phase III megalithic graves. Similarities with objects from Maojiaba M1 further suggest that Laolongtou M6 and M9 date to the early second C. B.C.

SOUTHWESTERN LIANGSHAN: YONGSHENG DUIZI AND ITS SURROUNDINGS

The only extensively excavated (but unfortunately unpublished) site in the far southwestern part of the research area is Yongsheng Duizi. The site has thick cultural layers with settlement finds and various types of graves that excavators assigned to four separate phases. The earliest phase is represented by the settlement remains of Layer 4, the second by earth-pit graves and house remains, the third by the settlement remains of Layer 3, and the fourth by various stone-construction graves, cremation burials in urns, and earth-pit graves.[6] Based on comparisons with finds from other sites, Duizi seems to have been occupied over a long period from around 2000 B.C. to 200 B.C. or later, but the internal chronology shows some gaps.

The gray sand-tempered ceramic vessels with wide openings and fine-corded ware, net patterns, or sometimes finger-tip-impressed appliqué bands from the earliest phase at Layer 4 are accompanied by stone woodworking tools and bone needles. These assemblages resemble finds from Yunnan such as at Yongping Xinguang (Yunnansheng et al. 2002) and Yuanmou Dadunzi (Yunnansheng 1977) dating to 2000–1700 B.C. The second phase earth-pit graves provided ceramics (i.e., gray polished and black-slipped fine ware with fish-bone patterns or incised lines, mostly stout jars, some with handles, carinated bowls, and wide-bellied vases) that are very similar to objects from the early Bronze Age (1200–900 B.C.) layers of Dali Yinsuodao in Yunnan (Yunnansheng, Dalizhou, and Jianchuanxian 2009). The second phase of Yongsheng Duizi likely dates to the same period, as does the third phase, which is characterized by undecorated sand-tempered pottery jars, basins, stemmed bowls, and a considerable number of crescent-shaped double-perforated knives. Such knives are common in early Bronze Age sites in Yunnan such as Jianchuan Haimenkou (Yunnansheng 1958) and Yinsuodao. The fourth phase earth-pit graves contain stemmed bowls resembling objects from Kunming Yangfutou (Yunnansheng et al. 2005) and other cemeteries around Lake Dian in Yunnan.

The stone-construction graves furnished double-handled jars with middle ribs in the handles similar to ceramics from Yanyuan Laolongtou M4 but in a more elongated form. The fourth phase graves share other object forms with the graves in Yanyuan, including composite weapons, ring-pommel knives, mirrors, 鈴 *ling* bells, cowrie shells, turquoise beads, and specific arrowhead forms. Based on these parallels, the fourth phase at Yongsheng Duizi can be dated to the late second to the early first century B.C. The gap between the third and fourth phases is puzzling, but as the material from Duizi still awaits publication, internal chronology is difficult to assess.

Apart from Yongsheng Duizi, settlement sites in southwestern Liangshan are only known through surface finds that are insufficiently published and cannot be securely dated. Much further field research is needed before secure dates can be assigned.

PREHISTORIC CULTURAL DEVELOPMENTS IN SOUTHWEST SICHUAN

Based on the evidence from stratigraphy, typology, and radiocarbon dates described above, it finally becomes possible to compile a comprehensive chronological table for the Liangshan region, including southwestern Sichuan and adjacent parts of Yunnan (Table 3). As noted above, this region that has been disregarded because of its overall patchy data and the lack of an established chronological framework. Table 3 will therefore serve as a basis for sketching past cultural developments in this region.

Southeastern Liangshan: Earliest Habitations and Local Particularities

The earliest traces of human occupation in southwest Sichuan have been identified in the caves and early open-air sites of Huili and Panzhihua. Judging by the stone-tool assemblages, their makers practiced a hunter-gatherer lifestyle and used caves and open-air sites as seasonal stations or hunting camps. Non-agricultural forms of subsistence may have continued among later groups who had begun producing ceramics. The local environment likely contributed to the emergence and potential persistence of these groups of hunter-gatherers. Specifically, Panzhihua is dominated by a mountainous terrain that is not conducive for agriculture, but is extremely rich in plant and animal species; its subtropical climate would have allowed people to practice this form of subsistence year-round (Hein 2015).

By contrast, places in the fertile valleys of Huili such as Yangjia Wuji and Houzidong became home to early agriculturalists (Hein 2015). The ceramics of these sites show strong local particularities, but the stone tools resemble finds from Yunnan. This connection with places farther south continues through later periods. Assemblages similar to finds from Houzidong were reported from numerous other sites in Huili, reflecting the existence of a local cultural group practicing incipient agriculture. The somewhat coarser assemblage from Houzidong likely reflects an earlier phase of this development.

Ceramics belonging to the same tradition also appear in slightly later stone graves at Yingpanbao in Luquan County and the Huili sites of Guantianshan/Yingpanshan, Xiaotuanshan, and Xiaoyingpan.[7] Stone installations in graves are common throughout all of Southwest China, but the specific form of stone-cist grave construction and the associated burial rituals observed at these sites are locally specific. A limited amount of stone installations remain common in southeast Liangshan up to the time of Huili. What happens during the phase between the early stone-construction graves and the later earth-pit graves with or without stone installations found at Fenjiwan and other sites is not quite clear. The settlement site of Huili Dongzui is the only known site falling into this time period. Mode of subsistence, stone-tool assemblages, and ceramic quality at Dongzui continue earlier local traditions, but some of the ceramic forms bear resemblance to objects from Dechang Wangjiaping in the Anning River Valley. From this point onward, the southeastern area becomes integrated into developments in other parts of the research area.

Although, as discussed above, connections with Xichang can be observed in the ceramic assemblage of the large cemetery and settlement site of Huili Fenjiwan (Hein 2014*a*), its burial customs were very different from the megalithic-grave tradition of the Anning River Valley. They show continuity with earlier local traditions, however. All graves at Fenjiwan are small and sparsely equipped. They contain very few ceramics and only rarely a single weapon, tool, or ornament made of stone or metal. The form and content of all the graves are similar, indicating that any differences between various subgroups of the population did not affect how they were buried. The large number of objects found in the single grave of Leijiashan M1 indicates that these egalitarian burial customs changed during post-Fenjiwan times.

The ceramic forms at Huili Leijiashan and Huili Miaozi Laobao mostly hail back to Fenjiwan. By contrast, the nearly contemporaneous graves of Huili Guojiabao furnish a completely different assemblage, with few ceramics and a large number of metal objects nearly identical to finds from Yanyuan. These graves likely held the remains of a small group of people who had come from Yanyuan, perhaps to facilitate trade between the two places (Hein 2014*b*). Otherwise, metal objects remain rare in graves in southeastern Liangshan. The stone molds found at Huili Washitian show that rich local metal resources were exploited, but metal production techniques remained rudimentary. High-quality foreign objects such as the drums deposited at Huili Guoyuan and Luoluochong were not emulated or at least not deposited in the ground.

Although the drums were apparently highly valued, metal does not seem to have played a significant role in defining cultural or personal identities in the grave context. In this, as in many other respects, southeastern Liangshan remained remarkably resistant to outside influence. The area went through its own course of development. The explanation for this probably lies in geographic preconditions. The area is highly fertile. It had ample natural resources that likely attracted early inhabitants from Yunnan to move north. The later Xichang influences on local ceramic traditions show that people from the Anning River Valley also migrated southeast. The central valley is an attractive place to settle, but metal resources are scarce there. The uneven distribution of natural resources may have been a decisive factor linking the various subregions closer together over time.

The Anning River Valley: Thoroughfare and Center of Development

Major developments in the Anning River Valley around 2500 B.C. seem to stem from the centrality of its location. Early sites with microlithic assemblages and coarse ceramics are mainly observed at the southern end of the valley, closer to Huili. The early settlements of the central area are dominated by similar coarse-stone tools reflecting a mixed economy. The shallow single layers of the settlements indicate shifting habitation. Minor differences in tool assemblages between various sites around Xichang reflect slightly different modes of subsistence, with some groups relying heavily on fishing and others on agriculture or hunting (Hein 2015). Differences in ceramic decoration between the central valley (Xichang), the northern end of the river (Mianning), and areas south (Dechang, Miyi, and Yanbian) reflect the existence of at least three separate production traditions, presumably associated with distinct groups. The differences in tool assemblages further indicate that communities toward the south maintained a mixed form of economy, while adopting most of the ceramic

Table 3. Chronological Table for the Prehistoric and Early Historic Liangshan Region, Southwest China

Date (period)*	Central Liangshan (Anning River Valley)	Northeastern Liangshan	Southeastern Liangshan	Northwestern Liangshan	Southwestern Liangshan
Pre-2500 B.C. (Palaeolithic to Early Neolithic)			Renhe Huilongwa, Xicaoping Huili Yangjia Wuji		
2500–1600 B.C. (Neolithic to early Bronze Age)			Huili Houzidong Xiqu Yanwan, Renhe Gonghe		
	Dechang Maojiakan		Huili Hewanwan, Liantang, Tangjiaba, Tianbacun Renhe Yangjiashan		
	Dechang Wangjiaping (2360 ± 69 cal. B.C.) Xichang Henglanshan 4 (2545 ± 47 cal. B.C.)		Huili Guantianshan/ Yingpanshan		
	Xichang Henglanshan 3 (2112 ± 62 cal. B.C.)				
	Xichang Ma'anshan Xichang Qimugou I Lower Yingpanshan (Xichang) Early Dongjiapo (Dechang)	Zhaojue Pusu Bohuang M3, M4, M8, M9, M11	Huili Xiaoyingpan Huili Xiaotuanshan Luquan Yingpanbao		Yongsheng Duizi I
	Early Lizhou (Xichang)	Puge Tianba Puge Zhongcun	Huili Dongzui I		Yongsheng Jiaodingshan

*This table lists both absolute and conventional historical dates for easy reference. The terminology for historical periods comes from the chronology of the Central Plains as reported in Chinese literature.

(*Continued*)

TABLE 3 (*Continued*)

DATE (PERIOD)*	CENTRAL LIANGSHAN (ANNING RIVER VALLEY)	NORTHEASTERN LIANGSHAN	SOUTHEASTERN LIANGSHAN	NORTHWESTERN LIANGSHAN	SOUTHWESTERN LIANGSHAN
1600–1046 B.C. (Shang)	Early Dayangdui (Xichang) Middle Lizhou graves (Xichang) Xichang Yangjiashan Mianning Gaopo Layer 3 (1379 ± 39 cal. B.C.) Mianning Zhaojiawan Layer 2 (1316 ± 47 cal. B.C.) Mianning Gaopo Layer 1 (1179 ± 47 cal. B.C.)	Puge Xiaoxingchang settlement	Huili Dongzui II		Yongsheng Duizi II
1046–771 B.C. (Western Zhou)	Late Lizhou (Xichang) Mianning Zhaojiawan Layer 3 (972 ± 53 cal. B.C.) Early Dongjiapo (Dechang)				Yongsheng Duizi III
	Middle Dayangdui (Xichang) Xichang Mimilang Late Dongjiapo (Dechang)	Puge Wadaluo Zhaojue Fuchengqu M1–3	Yanbian Yumen Wanxiao?		
771–476 B.C. (Spring and Autumn)	Megalithic Graves I** Late Dayangdui (Xichang) Tianwangshan M10				

** Chinese literature suggests that the earliest the megalithic grave tradition began was in the late Spring and Autumn (771–476 B.C.) to the early Warring States (475–222 B.C.) periods, while early Eastern Han (A.D. 24–220) marked its end (Jiang 2007; Sichuansheng et al. 2006*a*).

(*Continued*)

TABLE 3 (*Continued*)

DATE (PERIOD)*	CENTRAL LIANGSHAN (ANNING RIVER VALLEY)	NORTHEASTERN LIANGSHAN	SOUTHEASTERN LIANGSHAN	NORTHWESTERN LIANGSHAN	SOUTHWESTERN LIANGSHAN
	Megalithic Graves IIa Upper Yingpanshan (Xichang) Xichang Qimugou M1, M2 Xichang Maliucun H1	Puge Xiaoxingchang AM1, AM2 Xide Lake Sihe Zhaojue Erba Keku M2, M4, M9 Puge Xiaoxingchang BM1–3 (601 ± 127 cal. B.C.)	Huili Fenjiwan I		
475–222 B.C. (Warring States)	Megalithic Graves IIb Dechang Guoyuan M2		Huili Fenjiwan II		
	Megalithic Graves IIIa Xichang Qimugou Layer 3 Dechang Wangjiatian		Huili Washitian Huili Fenjiwan III	Muli Qingrenbao Muli Shaoxiang Liangzi	
	Mianning Sanfentun Miyi Wanqiu M1, M2		Huili Leijiashan M1 Huili Miaozi Laobao	Ninglang Daxingzhen Muli Qingrenbao Muli Shaoxiang Liangzi	
221–206 B.C. (Qin)	Megalithic Graves IIIb Dechang Arong M1, M3, M4		Huili Guojiabao	Muli Qingrenbao Muli Shaoxiang Liangzi	
206 B.C.–A.D. 9 (Western Han)	Megalithic Graves IV Xichang Qimugou M3, W1		Huili Guoyuan and Luoluochong	Yanyuan Laolongtou M6, M9 Yanyuan Maojiaba M1 Muli Qingrenbao Muli Shaoxiang Liangzi	

(*Continued*)

TABLE 3 (*Continued*)

DATE (PERIOD)*	CENTRAL LIANGSHAN (ANNING RIVER VALLEY)	NORTHEASTERN LIANGSHAN	SOUTHEASTERN LIANGSHAN	NORTHWESTERN LIANGSHAN	SOUTHWESTERN LIANGSHAN
			Huili Zhuanchangba	Yanyuan Caojiawan Yanyuan Laolongtou M4 Maojiaba M2	Yongsheng Duizi IV
		Yuexi Liaojiashan Yuexi Huayang		Yanyuan Laolongtou M7, M11	
A.D. 9–23 (Wang Mang)	Megalithic Graves IV	Zhaojue Eba Buji M1, M2 Eba Buji M3			
A.D. 24–220 (Eastern Han)	Megalithic Graves IV	Zhaojue Pusu Bohuang M1 Zhaojue Chike Boxixian M1–6			

traditions common in the central valley, that is, ceramic traditions developed around the Anning River Valley and spread both north and south. In Mianning, only the inhabitants of Gaopo and Zhaojiawan produced a completely different ceramic assemblage, indicating that they had a separate and possibly foreign identity. Their descendants either left the area or were assimilated into local groups without their own ceramic tradition, leaving considerable traces in the later local material.

Similarities in ceramic assemblages between Hanyuan in northern Sichuan and Yuanmou in northern Yunnan demonstrate that the Anning River Valley served as a north–south transit corridor in southwest Sichuan (Hein 2013). Within this central corridor, outside influences can be seen from the time of Xichang Lizhou onward, when double-handled vessels resembling those from Qijia cultural traditions became common. Xichang Qimugou revealed high-fired ceramic vessels and metal objects so similar to objects from Gansu and Qinghai that a direct strong connection between these areas is very likely. Over time, local ceramic production techniques resulting in unevenly fired reddish-brown ware dominated, but the foreign double-handled forms remained.

Various groups inhabiting the Anning River Valley became increasingly integrated with the emergence of megalithic graves. Before, single primary interments with limited numbers of ceramic vessels in earth-pit graves had been the norm. Then the first small aboveground stone graves used in single instances of interment were built in Xichang. Although they were not reopened, pits containing sets of drinking vessels and ewers show that post-burial rituals must have taken place around them. Over time, these graves grew in size and began to be reopened for successive instances of primary interment. Some graves were entered to sort the bones or conduct other rituals. Drinking rituals also took place in or around the graves, as the sets of ceramics at grave entrances show. Processions between these graves, which were arranged in clusters highly visible in the landscape, may have taken place as well (Hein 2017).

This conspicuous custom of erecting and using megalithic graves in increasingly elaborate rituals spread south and north from the central valley, expanded into the eastern mountains of Puge and Xide, and probably reached northernmost Mianning sometime between the fourth and third centuries B.C. (Phase III for megalithic graves). At the same time, the ceramic material at local settlement sites such as Mianning Sanfentun changed drastically, becoming identical to what is known from megalithic graves at Xichang. The same applies to sites south of Xichang, where local forms were replaced by ceramics identical to those in Xichang.

Puge's megalithic graves somewhat differ from Xichang's in form and associated rituals, however. They are smaller, possibly because of the lack of flat ground in the eastern mountains. Their assemblages include bovine teeth used as ornaments and arrowheads as weapons instead of the bracelets, earrings, knives, and sharpening stones known from megalithic graves in the Anning River Valley. The earlier finds from Puge also demonstrate distinct local particularities in ceramic quality and form. The stone-tool assemblages observed at Puge's settlement sites suggest a strong reliance on hunting and, to a lesser extent, fishing, that is, the subsistence patterns were sensible adaptations to the densely forested local mountains. Their different ceramics furthermore shows that Puge inhabitants were likely culturally different from the inhabitants of the Anning River Valley. The differences continue into later phases in spite of the shared custom of erecting megalithic graves.

Men and women of all ages were buried in megalithic graves in the Anning River Valley and the eastern mountains, but infants were not. The urn pits in Xichang at Yingpanshan and Qimugou may have been used for child burials by the same people who built the megalithic graves. The earth-pit graves Qimugou M1 and M2 are equipped with assemblages exceedingly like those in Phase IIa megalithic graves, suggesting that part of the adult population was also buried separately for unknown reasons.

As far as daily life is concerned, the tool assemblages from megalithic graves and related settlements in the central valley show a probably settled mode of living dependent on agriculture, supplemented by hunting and in some places fishing. Only the sites in Puge show a continued primary reliance on hunting. Metal seems to have mainly been used for personal ornaments and only secondarily weapons or tools. So far, no traces of local metalworking have been found, but the coarse quality and considerable number of metal ornaments indicate that they were locally produced. Copper could have been mined locally, but the tin must have come from places south of the Anning River Valley such as Huili, elsewhere in Yunnan, or even as far away as Southeast Asia. The same applies to other parts of the research area where no local tin sources have been reported.

The Remote Mountains of Northeastern Liangshan: A Place Between

Although technically located in northeastern Liangshan, Puge and Xide have a relatively moderate climate and less forbidding elevation compared to Zhaojue, Meigu, and Yuexi, which are located in very cold, remote mountains. The few known settlement remains and small number of tools found in graves in the far northeastern area suggest that hunting was an important subsistence practice. Woodworking tools and teeth of domesticated pigs have also been found in graves in the area, so mixed forms of economy were probably common (Hein 2015).

The great diversity of grave forms occurring in close vicinity to each other is particularly striking; assemblages combine objects from different traditions. Some imitate Han brick graves, while others resemble small megalithic graves, but all contain calcinated ropes (a particular local custom) next to Han imports and ceramics reminiscent of finds from Puge and even Huili. In spite of the noticeable continuities visible in some graves, the slight spatial separation between differently constructed graves within the same cemetery indicates that they were probably built for and by people belonging to different cultural groups. The considerable number of imported objects or objects showing foreign influence further identifies northeast Liangshan as a meeting point for goods and peoples of different origin. Who these people were and why they entered the area remain to be investigated.

The sizable number of Han objects in later graves in Zhaojue and Meigu and the appearance of Han brick graves are easier to explain. The Han were trying to find a way into and through the Liangshan region toward Yunnan. They seem to have settled the area in increasingly large groups, leaving traces of Han culture in their burial monuments and influences on local customs.

The case of Yuexi is less clear because only preliminary survey work has been conducted in the area. Various kinds of stone-construction graves, earth-pit graves, and even megalithic graves have been reported there. The objects found in Yuexi so far are

similar to finds from Han-period stone-cist graves around the upper Min River. These finds confirm that northeastern Liangshan was a transit area where people from many different places met. How they interacted with each other and with the local population can only be determined through further fieldwork.

The High-Altitude Mountains, Plateaus, and Valleys of Western Liangshan: A Different World

Three different ethno-geographic entities can be distinguished in the western mountains of Liangshan. The wide, fertile, high-altitude valleys of Yongsheng have deeply layered settlement sites, while the high-altitude Yanyuan Basin and surrounding mountains of Yanyuan and Ninglang are dominated by various types of graves with stone installations and weapon-rich assemblages. Finally, remarkable stone houses were built on high mountaintops in Muli.

Some of the settlement sites in Yongsheng were used over a considerable time by a population relying mainly on agriculture for their subsistence (Hein 2015). Their burial customs were diverse and changed over time. The assemblages of its inhumation graves are dominated by ceramics combined with a few simple personal ornaments, tools, and rare knives or arrowheads. Ceramics from all periods show strong connections to central Yunnan. Connections with communities farther north are likewise visible, but the likelihood of a link to the Anning River Valley is remote. The same applies to Yanyuan and Ninglang.

It is uncertain when the area around Yanyuan and Ninglang was first inhabited, but the few small single-layered settlement sites and stone-tool and animal-bone assemblages observed in graves and settlements suggest that agriculture played only a minor role in local economies and settlement locations shifted frequently, at least up to the Han period. The grave forms and object assemblages reflect close connections with northwest Sichuan, but local particularities prevail. The graves are dominated by weapons accompanied by some personal ornaments and one or two ceramic vessels each, the opposite of assemblages from Yongsheng. A few graves in the Yanyuan Basin are particularly rich, containing large numbers of imported objects next to local ones. The unevenness in material wealth probably reflects the dominance of an elite over a particular resource (likely salt) that allowed them to trade widely and be buried in grand style (Hein 2014*b*).

How Yanyuan and Ninglang developed over time is difficult to say, as all known finds cover a period of only about 200 years. The same applies to Muli, where only two prehistoric sites have been reported so far. The stone houses observed in Muli show a very close connection with developments in eastern Tibet and northwest Sichuan, both high-altitude locations with a harsh environment. The animal-bone assemblages in Muli are remarkable. They are dominated by deer and other wild species, while domesticated pig and cattle are rare. Bones of domesticated horses have also been found in Muli (Sichuansheng et al. 2012). Here we see an interesting connection with Yanyuan, where horse heads and long bones accompanied by horse gear were interred in some of the richest graves, reflecting the local importance of horses and horse riding. It remains to be seen if settlements similar to those in Muli will be found farther south and if graves similar to those in Yanyuan and Ninglang appear in Muli, or if the two places share subsistence systems and an emphasis on horse riding, but are otherwise culturally distinct.

CONCLUSION

As the comparative analysis of material from the different kinds of sites has shown, there are remarkable discrepancies in archaeological assemblages between various subregions of the broader Liangshan region. The subsistence systems are clearly influenced by the particular environmental preconditions in each of the different subregions. In spite of local economic and cultural particularities, the various subregions were in constant contact and became increasingly interconnected over time. The conspicuous custom of building megalithic graves and conducting complex rituals in and around them seems to have attracted a considerable number of people from various cultural backgrounds throughout the Anning River Valley and beyond. Populations living in the remote northeastern mountains were not integrated into this development, but were influenced by peoples living farther south and east. Elements of foreign origin are so manifold, in fact, that it is currently difficult to say what specific local developments may have looked like. Further field research is badly needed before a long-term developmental sequence can be established for the northeastern area of Liangshan.

The southeastern area is considerably better understood than the northeast. People in this area developed quite independently of cultural developments in the Anning River Valley. Even though some elements of the stone-tool and ceramic assemblages reveal close connections with neighboring parts of northeastern Yunnan, the overall character of object forms is distinctive, as are the burial customs of the southeast. Later ceramics (from at least the seventh century B.C. onward) show that the southeastern area was not completely isolated from the Anning River Valley, however, and ceramics in the northeastern area show that interactions between the northeastern area and the southeastern area of Liangshan commenced even earlier. The graves of Huili Guojiabao even suggest that people from the southwest may have relocated to southeast Liangshan, but local object production and burial customs seem to have remained remarkably unchanged by such external influences.

The western mountains of Liangshan are a very different case, but developments there are no more unified than in the southeast. The Yongsheng area is more closely integrated into broader cultural developments in Yunnan, but the rich variety of grave and interment forms practiced by apparently flourishing settled agricultural communities are so far unique even for northwest Yunnan. Here, again, further field research is needed to confirm if what we see at Yongsheng Duizi is a localized phenomenon limited to the area around Chenghai Lake.

The rich graves of the horse-riding warriors of Yanyuan and Ninglang are a rather short-lived but complex phenomenon that implies the peoples of the southwestern mountains were integrated into a wide-ranging exchange network. The combination of various foreign elements and local particularities is fairly unique to the area, so further fieldwork is needed before we can claim to understand the local origins of some of the peculiar later developments.

Northwestern Liangshan seems to be part of a cultural sphere spanning the southern rim of the Tibetan Plateau. That this cultural phenomenon expanded so far east is surprising, but further surveys and excavations will hopefully determine if the two sites discovered so far in the area are exceptions or representative examples of a wider local tradition.

Overall, it has become clear that the Liangshan region was a meeting place for people from various parts of Western China and beyond, a transit region that incorporated vastly different cultural phenomena. Local archaeological material must be integrated into future studies on the prehistory of Sichuan and Yunnan or Western China in general.

The various ecological niches characterizing the Liangshan region led to the development of peculiar local cultural phenomena that are well worth studying in their own right. The chronological scheme and developmental sequences outlined in this article provide a basis for such studies. The chronology will undoubtedly be amended as newly excavated material becomes available and sequences of radiocarbon dates are systematically taken for all known sites.

In the absence of dates obtained through archaeometric research, this study has shown that traditional methods of typology and comparison, combined with an awareness of the importance of the natural environment and the wide variety of mechanisms of intergroup exchange, remain powerful tools in establishing prehistoric cultural developments within their temporal framework and natural environment. Furthermore, this article demonstrates that the Liangshan region was not a remote backwater, but rather a crucial intersection point between the northern steppe and the fertile plains of Yunnan and Sichuan. Understanding Liangshan is critical for establishing a chronology of Southwest China and writing the cultural history of the prehistoric Chinese border regions.

ACKNOWLEDGMENTS

Collecting the published and unpublished materials that are the basis for this article was possible only with the help of a considerable number of people. Most importantly, I want to thank Jiang Zhanghua 江章華 for introductions to archaeologists working in the Liangshan region and for our long and very fruitful discussions on local prehistoric cultural developments. I am also very much indebted to Liu Hong 劉宏, who generously granted me access to the original material held at the Liangshan Museum and made it possible for me to travel to many sites throughout the Liangshan region. And of course, none of this would have been possible without Sun Hua 孫華, who took me under his wing and introduced me to southwest Sichuan and its wonderful archaeology in the first place. Last but not least, I would like to thank the reviewers and the editorial team for their detailed comments and corrections that helped improve this article significantly. All remaining mistakes or lack of clarity are mine.

Appendix A: Overview of Source Material for Information on Sites in Liangshan Region

SITE		SOURCE
Liangshan Yi Autonomous Prefecture, Sichuan Province 四川省涼山彝族自治州		
Dechang Arong	德昌阿榮	Sichuansheng et al. 2006*a*, 2006*d*; Zhongguo 2009; data collection*
Dechang Ayong	德昌阿雍	Zhongguo 2009
Dechang Ayue	德昌阿月	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Cizhuiping	德昌茨竹坪	Zhongguo 2009
Dechang Daba	德昌大垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Dachangba	德昌大廠垻	Sichuansheng et al. 2006*a*; Zhongguo 2009

(*Continued*)

Appendix A (*Continued*)

SITE		SOURCE
Dechang Dashipai	德昌大石排	Liu 2009; Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Dechang Dianma	德昌點馬	Zhongguo 2009
Dechang Dongjiapo	德昌董家坡	Zhou 2011; data collection
Dechang Fangjiacun	德昌方家村	Zhongguo 2009; data collection
Dechang Ganhai	德昌干海	Sichuansheng 2006*a*; Zhongguo 2009;
Dechang Guadi	德昌瓜地	data collection
Dechang Guoyuan	德昌果園	Sichuansheng et al. 2006*a*; Xichang 1978*b*; Zhongguo 2009; data collection
Dechang Hejia Fenshan	德昌何家墳山	Sichuansheng et al. 2006*a*
Dechang Hejiashan	德昌何傢山	Zhongguo 2009
Dechang Hezui	德昌何嘴	Liu Hong 2009
Dechang Hongmiao	德昌紅廟	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Hongmiaocun	德昌紅廟村	Zhongguo 2009
Dechang Huangjiaba	德昌黃家垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Liangsanpo	德昌涼傘坡	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Luojiaba	德昌儸家堡	Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Dechang Ma'anzi	德昌馬鞍子	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Maliliang Zhanbei	德昌麻栗糧站北	Zhongguo 2009
Dechang Maliliang Zhannan	德昌麻栗糧站南	Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Dechang Maojiaba	德昌毛傢垻	Zhongguo 2009
Dechang Maojiakan	德昌毛傢坎	Sichuansheng & Liangshan 2007; data collection
Dechang Minzhucun	德昌民主村	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Nanhua Baobao	德昌南華包包	Sichuansheng et al. 2006*a*
Dechang Nanhuagong	德昌南華官	Zhongguo 2009
Dechang Shaba	德昌沙垻	Sichuansheng et al. 2006*a*
Dechang Shaorenba	德昌燒人垻	Sichuansheng et al. 2006*a*; data collection
Dechang Shengli	德昌勝利	Sichuansheng et al. 2006*a*
Dechang Shuijingwan	德昌水井灣	Sichuansheng et al. 2006*a*
Dechang Shuitangcun	德昌水塘村	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Wangjiaping	德昌汪傢坪	Chengdushi et al. 2009
Dechang Wangjiatian	德昌王家田	Sichuansheng & Liangshan 2006; data collection
Dechang Wujia	德昌吳傢	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Xiaogao	德昌小高	Sichuansheng et al. 2006*a*
Dechang Xiaoliusuo	德昌小六所	Sichuansheng et al. 2006*a*; data collection
Dechang Xiaomiaoshan	德昌小廟山	Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Dechang Xinmin Wujia	德昌新民吳	Sichuansheng et al. 2006*a*
Dechang Yingzipo	德昌銀子坡	Zhongguo 2009
Dechang Yongxing	德昌永興	Zhongguo 2009; data collection
Dechang Yuejin	德昌躍進	Sichuansheng et al. 2006*a*; Zhongguo 2009
Dechang Zhangjiaba	德昌張家垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Huidong Dashanba	會東大山包	Zhongguo 2009; data collection
Huidong Liujiawan	會東劉傢灣	Zhongguo 2009
Huili Dachonggou	會理大沖溝	Zhongguo 2009
Huili Dazhaizi	會理大寨子	Liu Hong pers. comm., 11/2010

(*Continued*)

Appendix A (*Continued*)

SITE		SOURCE
Huili Dongzui	會理東咀	Chengdu, Liangshanzhou, & Huilixian 2008; data collection
Huili Fenjiwan	會理粪箕湾	Huilixian et al. 2004, Sichuansheng et al. 2009; Tang 1992; Zhongguo 2009; data collection
Huili Gong'anju (aka Huili94)	會理公安局 (會理94)	Tang 1996
Huili Guantianshan (aka Yingpanshan)	會理觀田山	Sichuansheng et al. 2009; data collection
Huili Guojiabao	會理郭傢堡	Sichuansheng et al. 2009; Zhongguo 2009; data collection
Huili Guoyuan (aka Huili Drum 4)	會理觀果園鄉 (會理四號鼓)	Tang 1998; data collection
Huili Hedongtian	會理河東田	Data collection
Huili Hekoucun	會理河口村	Tang 1993
Huili Hewanwan	會理河灣灣	Tang 1992
Huili Houzidong	會理猴子洞	Sichuansheng et al. 2009; Zhongguo 2009; data collection
Huili Jinmei	會理金梅	Zhongguo 2009
Huili Kangzipo	會理康芧坡	Data collection
Huili Leijiashan	會理雷傢山	Chengdu, Liangshanzhou, & Huilixian 2009; Zhou et al. 2010; data collection
Huili Liantang	會理蓮塘	Tang 1992; data collection
Huili Luoluochong (aka Huili Drum 3)	會理羅羅沖 (會理三號鼓)	Zhongguo 2009
Huili Miaozi Laobao	會理廟子老堡	Sichuansheng et al. 2009; data collection
Huili Puling	會理普隆	Tang 1992; Zhongguo 2009
Huili Qiaoba	會理喬垻	Liu Hong pers. comm., 11/2010
Huili Raojiadi	會理饒家地	Data collection
Huili Shenjiafen	會理沈傢墳	Zhongguo 2009
Huili Tangjiaba	會理唐傢垻	Tang 1992
Huili Tangjiapo	會理唐傢坡	Tang 1992; Zhongguo 2009
Huili Tianbacun	會理田垻村	Sichuansheng et al. 2009
Huili Washitian	會理瓦石田	Sichuansheng et al. 2009; Tao 1981; Zhongguo 2009; data collection
Huili Wuhuangqing	會理吳黃箐	Tang 1999; Zhongguo 2009
Huili Xiao'aozi	會理小凹子	Zhongguo 2009; data collection
Huili Xiaotuanshan	會理小團山	Tang 1999; Zhongguo 2009
Huili Xiaoyingpan	會理小營盤	Kunmingshi et al. 2007; Sichuansheng et al. 2009
Huili Xicaodi	會理蓆草地	Zhongguo 2009
Huili Yangjia Wuji	會理楊傢屋基	Zhongguo 2009
Huili Yimen Xiacunxiang	會理益門下村鄉	Tang 1999
Huili Yingpanshan	會理營盤山	Zhongguo 2009
Huili Yuanbaoshan	會理元寶山	Zhongguo 2009; data collection
Huili Yunshancun	會理云山村	Zhongguo 2009
Huili Zhuangchangba	會理轉場垻	Zhonggguo 2009
Meigu Azu Bugu	美姑阿足	Sichuansheng et al. 2006*a*
Meigu Jiukou Jiaogu	美姑九口腳谷	Sichuansheng et al. 2006*a*
Meigu Shengdu Wage	美姑聖都瓦各	Liu Hong pers. comm., 12/2010
Meigu Wagujue Cunnan	美姑瓦姑覺村南	Sichuansheng et al. 2006*a*

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Appendix A (*Continued*)

SITE		SOURCE
Meigu Wagujue Dongbei	美姑瓦姑覺東北	Sichuansheng et al. 2006*a*
Meigu Wagujue Dongnan	美姑瓦姑覺東南	Sichuansheng et al. 2006*a*
Mianning Beishanba	冕寧北山垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Mianning Chengguan	冕寧城関	Yang 2001
Mianning Gaopo	冕寧高坡	Data collection
Mianning Gaopo Wanwan	冕寧高坡灣灣	Liu 2009; Zhongguo 2009; data collection
Mianning Hujiacui	冕寧胡家嘴	Liu 2009; data collection
Mianning Manshuiwan	冕寧漫水灣	Zhongguo 2009
Mianning Miaoshan	冕寧廟山	Liu 2009; Zhongguo 2009; data collection
Mianning Ruoshuicun	冕寧若水村	Sichuansheng et al. 2006*a*; Zhongguo 2009
Mianning Sanfentun	冕寧三分屯	Liangshan & Mianningxian 2006; data collection
Mianning Sankuaishi	冕寧三塊石	Sichuansheng et al. 2006*a*; Zhongguo 2009
Mianning Songlin Laojie	冕寧松林老街	Sichuansheng et al. 2006*a*
Mianning Wenjiatun	冕寧文家屯	Liu 2009
Mianning Xiangshi	冕寧响石	Sichuansheng et al. 2006*a*; Zhongguo 2009
Mianning Xiaogoudi	冕寧小溝地	Zhongguo 2009
Mianning Zhaojiawan	冕寧趙家灣	Chengdushi et al. 2012; data collection
Muli Qingrenbao	木里縣情人寶	Sichuansheng et al. 2012
Muli Shaoxiang Liangzi	木里縣燒香梁子	Sichuansheng et al. 2012
Ningnan Heinigou	寧南黑泥溝	Zhongguo 2009
Ningnan Tangjiawan	寧南唐傢灣	Zhongguo 2009
Puge Amucun	普格阿木村	Zhongguo 2009
Puge Heping	普格和平	Zhongguo 2009
Puge Kangli	普格康利	Data collection
Puge Tianba	普格田坝	Liangshan et al. 1982
Puge Tuantian	普格團田	Liangshan et al. 1982
Puge Wadaluo	普格瓦打洛	Liangshan 1983*a*; Zhongguo 2009; data collection
Puge Xiaoxingchang	普格小興場	Liangshan & Pugexian 1987; Liangshan et al. 1982; Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Puge Zhongcun	普格中村	Liangshan et al. 1982
Xichang Bahe Baozi	西昌垻河堡子	Liu 2009; Sichuansheng & Anninghe 1976; Sichuansheng et al. 2006*a*; Xichang et al. 1978; Zhongguo 2009; data collection
Xichang Baijiazhai	西昌白家寨	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Beishan	西昌北山	Liangshan 1990; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Bengtukan	西昌崩土坎	Zhongguo 2009
Xichang Changcun	西昌長村	Zhongguo 2009
Xichang Chenyuancun	西昌陳遠村	Huang 2000; Liu & Wang 2007; Zhao 1981
Xichang Dabaobao	西昌大包包	Zhongguo 2009
Xichang Dabaozi	西昌大堡子	Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Xichang Dacaoba	西昌大草垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Damaliu	西昌大麻柳	Zhongguo 2009
Xichang Daniba	西昌大泥垻	Liu 2009
Xichang Dashiban	西昌大石板	Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection

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Appendix A (*Continued*)

SITE		SOURCE
Xichang Dayangdui	西昌大洋堆	Sichuansheng et al. 2006*a*; Xichangshi et al. 2004; Zhongguo 2009; data collection
Xichang Dongping	西昌東坪	Jiang 1994; Sichuansheng et al. 2006*e*
Xichang Dongyuemiao	西昌東嶽廟	Zhongguo 2009
Xichang Guanjiashan	西昌官家山	Zhongguo 2009
Xichang Guanshan	西昌関山	Liangshan 1983*b*; Liu 2009; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Guihuacun	西昌桂花村	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Henglanshan	西昌横欄山	Chengdu et al. 2006; Xichangshi 1998; data collection
Xichang Hexi Gongshe	西昌河西公社	Sichuansheng et al. 2006*a*; Xichang 1978*c*; Zhongguo 2009; data collection
Xichang Hongqi	西昌紅旗	Sichuansheng et al. 2006*a*
Xichang Huangshuitang	西昌黄水塘	Liangshan 1990; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Jiangjiabao	西昌蔣傢包	Zhongguo 2009
Xichang Jianxin	西昌建新	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Liguoshan	西昌李果山	Sichuansheng et al. 2006*a*
Xichang Lijiagou cun	西昌李傢溝村	Zhongguo 2009
Xichang Lizhou	西昌禮州	Huang 2000; Liu & Wang 2007; Zhao 1981
Xichang Luzhuishan	西昌盧嘴山	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Ma'anshan	西昌馬鞍山	Chengdu et al. 2007*b*; data collection
Xichang Mahuangkan	西昌螞蟥坎	Liu 2009
Xichang Maliucun	西昌麻柳村	Sichuansheng et al. 2006*a*, 2006*b*; data collection
Xichang Maomaoshan	西昌帽帽山	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Mimilang	西昌咪咪啷	Liangshan et al. 2006; Sichuansheng et al. 2006*a*; data collection
Xichang Qimugou	西昌棲木沟	Chengdu, Liangshanzhou, & Xichangshi 2008, 2009; Chengdushi et al. 2009; Sichuansheng et al. 2006*a*, 2006*c*; data collection
Xichang Qujia Laokan	西昌瞿家老坎	Liu 2009
Xichang Reshuitang	西昌熱水塘西	Zhongguo 2009
Xichang Sanhe	西昌三和	Liu 2009
Xichang Shajiapo	西昌沙家坡	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Shangxiang	西昌上香	Zhongguo 2009
Xichang Shantou	西昌山頭	Liu 2009
Xichang Shaojia Gaokan	西昌肖傢高坎	Liu 2009
Xichang Shijia Baozi	西昌施傢堡子	Zhongguo 2009; data collection
Xichang Shizuizi	西昌石嘴子	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Shuanggudui	西昌雙谷堆	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Tanshan	西昌墠山	Zhongguo 2009
Xichang Tianbacun	西昌田垻村	Sichuansheng et al. 2006*a*
Xichang Tianwangshan	西昌天王山	Liangshan 1984; Zhongguo Wenwu 2009; data collection
Xichang Tuanbao	西昌團堡	Data collection
Xichang Tuanshanbao	西昌團山包	Liu 2009; Zhongguo 2009
Xichang Tu'ershan	西昌兔兒山	Liu 2009
Xichang Wanao	西昌窪塢	Sichuansheng et al. 2006*a*, 2006*d*; Zhongguo 2009; data collection

(*Continued*)

Appendix A (*Continued*)

SITE		SOURCE
Xichang Wuguishan	西昌烏龜山	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Xiaohuashan	西昌小華山	Liangshan 1990; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Xiaojia Gaokan	西昌肖傢高坎	Liangshan 1983*c*; Sichuansheng et al. 2006*a*; Xichang 1978*d*; data collection
Xichang Xijiao Gongshe	西昌西郊公社	Liangshan 1983*c*; Sichuansheng et al. 2006*a*; Xichang 1978*d*; data collection
Xichang Xingsuo	西昌星宿	Sichuansheng et al. 2006*a*
Xichang Xinxingcun	西昌新興村	Zhongguo 2009
Xichang Xinying	西昌新營	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xichang Xixicun	西昌西溪村	Sichuansheng et al. 2006*a*
Xichang Yangjiashan	西昌楊傢山	Liangshan 1987*a*; Liu 1981; Zhongguo 2009
Xichang Yanjiashan	西昌羊山坡	Liangshan 1983*a*; Sichuansheng et al. 2006*a*; data collection
Xichang Yezhugou	西昌野豬溝	Sichuansheng et al. 2006*a*
Xichang Yingpanshan	西昌營盤山	Chengdu et al. 2007*a*; data collection
Xichang Yuanjiashan	西昌袁家山	Liangshan 1983*a*; Sichuansheng et al. 2006*a*; Zhongguo 2009; data collection
Xichang Yunduanshan	西昌云斷山	Zhongguo 2009
Xichang Zengjiabao	西昌曾傢堡	Zhongguo 2009
Xichang Zhengjiafen	西昌鄭傢墳	Zhongguo 2009
Xichang Zhongguanpo	西昌鈡官坡	Liu 2009
Xichang Zhongjia Shanzui	西昌鈡傢山嘴	Zhongguo 2009
Xide Guluqiao	喜德軲轤橋	Liangshan 1987*b*; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xide Guoyuancun	喜德果園村	Zhongguo 2009
Xide Lake Sihe	喜德拉克公社四合	Liangshan 1977; Liangshan 1978; Sichuansheng et al. 2006*a*; Zhongguo 2009
Xide Lanfenba	喜德爛墳垻	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xide Laoniuchang	喜德老牛場	Zhongguo 2009
Xide Qingli	喜德清理	Sichuansheng et al. 2006*a*; Zhongguo 2009
Xide Wadegu	喜德瓦得姑	Wang 1979; Zhongguo 2009
Xide Wamu	喜德瓦木	Wang 1979
Xide Wenjiaba	喜德溫傢垻	Zhongguo 2009
Xide Wuhe	喜德伍合	Sichuansheng et al. 2006*a*; Zhongguo 2009
Yanyuan Bei Ganhaixiang	鹽源北干海乡	Liangshan & Chengdu 2009
Yanyuan Boshucun	鹽源博樹村	Zhongguo 2009
Yanyuan Caojiawan	鹽源曹傢灣	Li & Liu 1992; Zhongguo 2009
Yanyuan Ganhai Sandadui	鹽源干海三大隊	Data collection
Yanyuan Gesa	鹽源格撒	Huang 1983; Zhongguo 2009
Yanyuan Gong'anju	鹽源公安局	Liangshan & Chengdu 2009; data collection
Yanyuan Haimatang	鹽源海馬塘	Zhongguo 2009
Yanyuan Jiaodingshan	鹽源轎頂山	Sichuan & Sichuan 1984; Zhongguo 2009
Yanyuan Jiejiafen	鹽源解傢墳	Zhongguo 2009
Yanyuan Laolongtou	鹽源老龍頭	Jiang 2008; Lang 2006; Liangshan & Chengdu 2009; Liu 1998; Liu & Li 1991; Liu & Tang 2006; Zhongguo 2009; data collection
Yanyuan Luowa	鹽源洛瓦	Liangshan & Chengdu 2009
Yanyuan Maojiaba	鹽源毛傢垻	Liu 1991; Liu & Tang 2001

(*Continued*)

Appendix A (*Continued*)

SITE		SOURCE
Yanyuan Meiyu Bacun Sanzu	鹽源梅雨八村三組	Liu Hong pers. comm., 11/2011
Yanyuan Nanbianhe	鹽源南边河	Liangshan & Chengdu 2009
Yanyuan Tangguan Liandi	鹽源唐光連地	Liangshan & Chengdu 2009
Yanyuan Tangshidi	鹽源唐氏地	Zhongguo 2009
Yanyuan Wuming Baobao	鹽源無名包包	Zhongguo 2009
Yanyuan Wuqiu	鹽源烏丘	Xichang 1978*a*
Yanyuan Wushidi	鹽源伍氏地	Liangshan & Chengdu 2009; Zhongguo 2009
Yanyuan Xiaoguan Liangzi	鹽源小官梁子	Zhongguo 2009
Yanyuan Xiaohebian	鹽源小河邊	Liangshan & Chengdu 2009; Zhongguo 2009
Yanyuan Xifan	鹽源西藩	Zhongguo 2009
Yanyuan Yingpanshan	鹽源鹽源公安局	Liangshan & Chengdu 2009; Zhongguo 2009
Yanyuan Yingpanshan	鹽源營盤山	Zhongguo 2009
Yanyuan Zhushiba	鹽源豬屎坝	Liangshan & Chengdu 2009
Yuexi Huayang	越西華陽	Zhongguo 2009
Yuexi Liaojiashan	聊家山	Mao & Zou 1991; Zhongguo 2009
Yuexi Qu'ershan	越西雀兒山	Zhongguo 2009
Yuexi Wajimu	越西瓦吉木	Zhongguo 2009
Zhaojue Ada Bobu	昭覺阿打波補	Sichuansheng et al. 2006*a*
Zhaojue Bagu Erjue	昭覺巴古爾覺	Liangshan et al. 2009
Zhaojue Bakeku Cun	昭覺巴克苦村	Liangshan et al. 2009
Zhaojue Chike Boxixiang	昭覺齒可波西鄉	Liangshan et al. 2009
Zhaojue Daba Gongshe	昭覺大坝公社	Liangshan 1977
Zhaojue Dabaozi Geze	昭覺大堡子格則	Zhao Deyun pers. comm., 4/2011
Zhaojue Da'edou Gezi	昭覺大俄都格則	Zhao Deyun pers. comm., 4/2011
Zhaojue Dawenquan	昭覺大溫泉	Liangshan 1977
Zhaojue Dipo Cier	昭覺氐坡此爾	Zhongguo 2009
Zhaojue Eba Buji	昭覺俄巴佈吉	Liangshan et al. 2009
Zhaojue Erba Keku	昭覺尔巴克苦	Liangshan et al. 2010, 2011; Liangshan Yizu Zizhizhou Bowuguan 1977, 1981
Zhaojue Ergu Zege	昭覺尔姑	Zhao Deyun pers. comm., 4/2011
Zhaojue Erwu	昭覺二五	Zhongguo 2009
Zhaojue Fuchengqu	昭覺附城區	Liangshan et al. 2010, 2011; Liangshan Yizu Zizhizhou Bowuguan 1977, 1981
Zhaojue Geze Yangpeng	昭覺格則羊棚	Zhao Deyun pers. comm., 4/2011
Zhaojue Haba Qiehe	昭覺哈巴切合	Zhao Deyun pers. comm., 4/2011
Zhaojue Hangan Yide	昭覺汗干依德	Zhao Deyun pers. comm., 4/2011
Zhaojue Hebo	昭覺合波	Liu Hong pers. comm., 11/2010
Zhaojue Heiluo	昭覺黑洛	Zhao Deyun pers. comm., 4/2011
Zhaojue Jike Jiejue/Layimu	昭覺吉克傑覺	Liangshan et al. 2009
Zhaojue Jinzi Niaobu	昭覺金子鳥佈	Liangshan et al. 2009
Zhaojue Keri Watuo	昭覺軍屯	Zhongguo 2009
Zhaojue Kujia Ebu	昭覺克日瓦托	Zhao Deyun pers. comm., 4/2011
Zhaojue Machu Nawo	昭覺庫家俄佈	Zhongguo 2009
Zhaojue Mucuo Naijie	昭覺馬処納窩	Liangshan et al. 2009
Zhaojue Muergguo	昭覺木措乃姐	Zhongguo 2009
Zhaojue Mujueke	昭覺木爾果	Zhongguo 2009
Zhaojue Naituo	昭覺莫覺柯	Zhongguo 2009
Zhaojue Niaopo	昭覺乃托	Liangshan et al. 2009
Zhaojue Pusu Bohuang	昭覺鸟坡	Liangshan et al. 2009
Zhaojue Qianjinshe	昭覺濮蕪波湟	Zhongguo 2009
Zhaojue Sikaixiang	昭覺前進社	Zhongguo 2009

(*Continued*)

Appendix A (*Continued*)

SITE		SOURCE
Zhaojue Siyi Ergu	昭覺四開鄉	Zhongguo 2009
Zhaojue Teluocun	昭覺司益爾古	Liangshan et al. 2009
Zhaojue Tiaowoba	昭覺特洛村	Zhongguo 2009
Zhaojue Waluo Geci	昭覺跳窩垻	Zhongguo 2009
Zhaojue Watuo	昭覺瓦洛格側	Zhongguo 2009
Zhaojue Wazhaishan	昭覺瓦托	Liangshan et al. 2010, 2011; Liangshan Yizu Zizhizhou Bowuguan 1977, 1981
Zhaojue Yibijia	昭覺瓦寨山	Zhao Deyun pers. comm., 4/2011
Zhaojue Yihe Geci	昭覺依合格側	Zhongguo 2009
Panzhihua City, Sichuan Province		
Luquan Yingpanbao	祿勸營盤寶	Kunmingshi et al. 2007
Miyi Hejiaba	米易何傢垻	Zhongguo 2009
Miyi Lianhua Gongshe	米易蓮花公社	Data collection
Miyi Sanjingxiang	米易三井巷	Sichuansheng et al. 2006*a*
Miyi Tianba	米易田垻	Sichuansheng et al. 2006*a*
Miyi Wanqiu	米易彎丘	Liangshan Yizu Zizhizhou Bowuguan 1981; Liu & Zou 1995; Sichuansheng et al. 2006*a*
Miyi Yuanjiabao	米易袁傢寶	Zhongguo 2009
Miyi Zhaizishan	米易寨子山	Liu 2009
Renhe Baihushan	米易白虎山	Sichuansheng et al. 2006*a*
Renhe Gonghe	仁和共和	Zhongguo 2009
Renhe Huilongwa	仁和回龍灣	Zhongguo 2009
Renhe Xiawan	仁和下灣	Zhongguo 2009
Renhe Xicaoping	仁和席草坪	Zhongguo 2009
Renhe Yangjiashan	仁和楊傢山	Zhongguo 2009
Xiqu Yanwan	西區岩灣	Zhongguo 2009
Yanbian Huimin	鹽源惠民	Zhongguo 2009
Yanbian Pulongcun	鹽源普隆村	Zhongguo 2009
Yanbian Xicaodi	鹽源席草地	Zhongguo 2009
Yanbian Xinlin	鹽源新林	Zhongguo 2009
Yanbian Yongxing	鹽源永興	Zhongguo 2009
Yanbian Yumen Wanxiao	鹽源漁門完小	Dukoushi 1986; Zhongguo 2009
Yunnan Province		
Ninglang Cunyi	寧蒗翠依	Zhongguo & Yunnansheng 2001
Ninglang Daxingzhen	寧蒗大興鎮	Yunnansheng 1983*b*; Zhongguo & Yunnansheng 2001
Ninglang Jinyangcun	寧蒗金錫村	Zhongguo & Yunnansheng 2001
Ninglang Kaijicun	寧蒗開基村	Zhongguo & Yunnansheng 2001
Ninglang Pijiangcun	寧蒗皮匠村	Zhongguo & Yunnansheng 2001
Yongsheng Duizi	永勝堆子	Yunnansheng et al. 2010; data collection
Yongsheng Haiyancun	永勝海沿村	Zhongguo & Yunnansheng 2001
Yongsheng Laoying	永勝老營箐	Zhongguo & Yunnansheng 2001
Yongsheng Longtan	永勝龍潭銅器	Zhongguo & Yunnansheng 2001
Yongsheng Lujiajie	永勝陸傢界	Zhongguo & Yunnansheng 2001
Yongsheng Qiaodiping	永勝蕎地坪	Zhongguo & Yunnansheng 2001
Yongsheng Sankuaishi	永勝三塊石	Zhongguo & Yunnansheng 2001
Yongsheng Taoyingcun	永勝陶營村	Zhongguo & Yunnansheng 2001
Yongsheng Yanjiaqing	永勝嚴傢箐銅鼓	Zhongguo & Yunnansheng 2001

* "Data collection" indicates sites for which I had access to original material.

NOTES

1. The region is just a little smaller than South Carolina (82,931 km^2) or Austria (83,855 km^2).
2. Chinese characters for all site names can be found in Appendix A, so are not repeated in the text.
3. These and following dates were calibrated using OxCal online radiocarbon calibration using IntCal13 with an error range of 2σ. For a discussion on calibration, consult Reimer et al. 2013. https://c14.arch.ox.ac.uk/oxcal.html#program.
4. The site is on the easternmost fringe of Yanyuan and geographically belongs to the southwest.
5. In the study cited here, I present a detailed comparison of objects from the art market with those excavated in Yanyuan, pointing out that a number of objects from Yanyuan graves showed outside influence or were even imports, while others are clearly local products. The objects retrieved from the local art or antiquities market show striking similarities to objects retrieved from graves in Yanyuan, but as some objects from both "contexts" were of foreign origin to begin with, it is difficult to tell if the grave robbers selling these items to the art dealers had retrieved them from graves in Yanyuan or in Yunnan, for instance.
6. As the material is unpublished, all descriptions of Yongsheng Duizi are based on personal handling of the excavated material during a short stay in Yunnan and an informal presentation titled "Yongsheng Duizi yizhi fajue" 永勝對子遺址發掘 [Excavation of Yongsheng Duizi site] given at an informal gathering in Kunming in December 2010 by archaeologists from Yunnansheng Wenwu Kaogu Yanjiusuo 雲南省文物考古研究所, Lijiangshi Bowuguan 麗江市博物館, and Lijiangshi Yongshengxian Wenwu Guanlisuo 麗江市永勝縣文物管理所. The author was not granted permission to use any images from the presentation for publication, so here descriptions must suffice.
7. Originally, Guantianshan and Yingpanshan were thought to be two separate sites, but now it is clear that it is one large site, hence the double name.

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